

Library Landscape Assessment of Bangladesh



Contents

List of Figures, Tables and Boxes.....	5
List of Figures	5
List of Tables	6
List of Boxes.....	6
Acronyms.....	8
Executive Summary	10
1 Introduction	16
1.1 Background and rationale of the study.....	16
1.2 Objectives of the study.....	16
2 Methodology.....	17
2.1 Scope of LIS.....	17
2.2 Research design.....	17
2.3 Methods of data collection.....	18
2.4 Addressing research constraints.....	20
3 Library Landscape of Bangladesh	21
3.1 History and background	21
3.2 Governance and budgetary framework for public libraries in Bangladesh.....	24
3.2.1 Policy and legal framework.....	24
3.2.2 Governance framework	26
3.2.3 Budgetary framework.....	27
3.3 Users and uses.....	31
3.3.1 Education	31
3.3.2 Income	32
3.3.3 Occupation	33
3.3.4 Trend in use.....	34
3.4 People's information seeking behavior	37
3.5 The Built Infrastructure	41
3.5.1 Location and visibility.....	41
3.5.2 Building and space.....	42
3.5.3 Seating arrangements.....	44

3.5.4	Convenience	45
3.6	Library resources.....	46
3.6.1	Reading materials	46
3.6.2	Availability of computer and internet	49
3.6.3	Logistics	51
3.6.4	Power supply.....	51
3.7	Information services.....	53
3.7.1	Inclusiveness in services and resources.....	58
3.8	Library operation and management	61
3.8.1	Library staff.....	61
3.8.2	Inter-library resource sharing	64
3.8.3	Managing automation.....	66
3.8.4	Marketing, promotion and outreach	68
4	The Future Library of Bangladesh	68
4.1	Following Global Innovations.....	68
4.2	Features of Bangladesh's future libraries	72
4.2.1	Multipurpose Library	72
4.2.2	Space to Connect People	72
4.2.3	Demand-based access to information.....	75
4.3	Infrastructure and Services	76
4.3.1	Design considerations.....	76
4.3.2	Location and visibility	79
4.3.3	Convenience	79
4.3.4	Library Resources.....	80
4.3.5	Access to global knowledge and resource hubs	81
4.3.6	Innovation in ICT use	82
4.3.7	Diversified services.....	82
5	Key Challenges	83
5.1	Weak linkage with national policy framework.....	83
5.2	Lack of public investment	84
5.3	Challenges related to infrastructure.....	84
5.4	Challenges related to library resources.....	85
5.5	Challenges regarding ICT integration in public libraries	86

5.6	Service delivery and outreach challenges	86
5.7	Management challenges.....	87
5.8	Why have they ‘never been to a library’? Reasons for not using libraries	88
5.9	Why do they ‘not visit the library anymore’? Reason for ceasing library use	89
6	Conclusion: Action Needed.....	89
6.1	Approaches for developing a modern public library	89
6.1.1	Renovation through innovation	89
6.1.2	Learning from existing practices.....	90
6.1.3	Making a library for all.....	90
6.1.4	Right and access to information	90
6.1.5	Multipurpose approach to library	90
6.2	Improving library infrastructure.....	90
6.2.1	Ensuring better ICT integration.....	90
6.2.2	Introducing web based services.....	91
6.2.3	National infrastructure requirement	91
6.2.4	Digitization of resources.....	92
6.2.5	Innovative design for a modern library	93
6.2.6	Improving on human perspectives.....	93
6.3	Modernizing resources	94
6.3.1	Knowledge resources	94
6.3.2	Cultural resources.....	94
6.3.3	Resources for information services	94
6.3.4	Modern accessibility to resources	95
6.3.5	Resource availability and upgrading.....	95
6.3.6	Resources for mood boosting.....	95
6.4	Capacity building.....	95
6.4.1	Training of librarians.....	95
6.4.2	Engaging and knowledge sharing with local community	95
6.4.3	Capacity building of volunteers	96
6.5	Promoting libraries	96
6.5.1	Position as “Safe space”	96
6.5.2	Conducting promotional services	96
6.5.3	Enhancing library outreach.....	96

6.6	Revising the governance and budget framework.....	96
6.6.1	Alternatives for managing the budget shortage	96
6.6.2	Establishing inter-ministry liaison within the government.....	97
6.6.3	Library leadership and advocacy	97
6.6.4	Redesigning library management.....	97
Annex	100
7.1	Detail Methodology.....	100
7.1.1	Research design.....	100
7.1.2	Methods and instruments of data collection.....	102
7.1.2.4	<i>Survey methodology</i>	104
7.1.2.5	<i>Grounded Theory Approach</i>	121
7.1.2.6	<i>Online survey through social media campaign</i>	122
7.1.3	Instruments of data collection.....	122
7.1.4	Data processing and analysis	122
7.1.5	Quality control mechanism	123
7.1.6	Ethical consideration.....	124
7.1.7	Research constraints/ limitations/ risks.....	124
7.2	People's information need: findings from grounded theory approach	126
a.	People's regular activities indicating need for related information.....	126
b.	People's future plan and related information need.....	131
Bibliography	135

List of Figures, Tables and Boxes

List of Figures

Figure 1: Research design: complementarity of methods in achieving the objectives.....	18
Figure 2: Governance framework of a public library.....	27
Figure 3: Allocation trend of selected ministries as a share of total budget.	28
Figure 4: Allocations for Ministry of Cultural Affairs and its agencies in comparison with the total national budget.	29
Figure 5: Educational qualification of library and e-center users.....	32
Figure 6: Monthly income of library users	33
Figure 7: Monthly income of e-center users	33
Figure 8: Occupation of library users	33
Figure 9: Occupation of e-center users	33
Figure 10: Daily child visitors by library types.....	34
Figure 11: Daily child visitors by geographic location.....	34
Figure 12: Trend in no. of library users.....	35
Figure 13: Trend in no. of e-center users	35
Figure 14: Average number of daily visitors (library).....	35
Figure 15: Average number of daily visitors (e-center).....	35
Figure 16: Frequency of visiting libraries	36
Figure 17: Impact of libraries on women	36
Figure 18: User perceptions about libraries of Bangladesh	37
Figure 19: Importance of information (all household respondents)	39
Figure 20: Importance of information (Non-user household respondents who said they do not need library services)	39
Figure 21: Sources of information used by people	40
Figure 22: Visibility of libraries and e-centers	41
Figure 23: Libraries with different types of building materials	42
Figure 24: Divisional and District branch libraries in Chittagong, Manikganj, Narshingdi, and Rajshahi (From left to right)	43
Figure 25: Basic components of homogeneous spaces found in traditional libraries in Bangladesh	43
Figure 26: User satisfaction in terms of library lighting, ventilation and noise level.....	45
Figure 27: Seating arrangements.....	46
Figure 28: Librarian opinions on the most demanded reading materials.....	47
Figure 29: User satisfaction on availability of reading materials in libraries.....	48
Figure 30: Availability of computers in libraries.....	50
Figure 31: Type of Internet connectivity of libraries and e-centers	50
Figure 32: Type of internet connectivity of libraries by geographic location	50
Figure 33: Availability of supporting equipment in libraries	51
Figure 34: Main power source of libraries.....	52
Figure 35: Main power source of e-centers	52
Figure 36: Power backup of libraries.....	52
Figure 37: Power backup of e-centers	52

Figure 38: Services available in government public libraries of Bangladesh	53
Figure 39: Services accessed by library users.....	55
Figure 40: Types of services availed by e-center users.....	56
Figure 41: Infrastructure for Children	58
Figure 42: Children's safety inside library (user opinion).....	59
Figure 43: Facilities for people with special needs	60
Figure 44: Special facilities for female users	61
Figure 45: Training of librarians (duration).....	61
Figure 46: Types of training (librarians)	62
Figure 47: User opinion - library staff are skilled	64
Figure 48: Inter-library resource sharing scenario.....	65
Figure 49: Resource indexing in libraries.....	66
Figure 50: Types of libraries based on target user group and service provisions.....	70
Figure 51: Top development priorities (opinion of librarians).....	72
Figure 52: Potentiality of mobile libraries – user opinion.....	73
Figure 53: Hierarchy of information needs	76
Figure 54: Missing parts of public libraries which need to be addressed in Bangladesh	78
Figure 55: Battery Park City Library, New York	79
Figure 56: External view of Seattle Central Library	79
Figure 57: User preference regarding arrangement of books	80
Figure 58: Status of multiple use of library and e-center venues	83
Figure 59: Infrastructure challenges perceived by librarians.....	85
Figure 60: Resources challenges perceived by librarians.....	85
Figure 61: Service delivery and outreach related challenges perceived by librarians.....	86
Figure 62: Obstacles to library use (library services)	87
Figure 63: Management challenges of libraries perceived by librarians.....	88
Figure 64: Reasons for not using libraries - opinion of non-users	88
Figure 65: Reasons for not using libraries - opinion of ex-users.....	89

List of Tables

Table 1: Survey design.....	19
Table 2: Different types of libraries in Bangladesh.....	22
Table 3: Allocation for Ministry of Cultural Affairs and its agencies.....	30
Table 4: Room types in libraries.....	44
Table 5: Types of spaces by geographic location of libraries.....	44
Table 6: Average number of reading materials available at government public libraries	46
Table 7: Sources of books for different types of libraries.....	47
Table 8: User satisfaction on the availability of equipment in libraries (%)	51
Table 9: Training of librarians by geographic location of libraries.....	62
Table 10: Training programs of the Department of Public Libraries	63

List of Boxes

Box 1: A typology of public libraries in Bangladesh	22
Box 2: A typology of e-centers in Bangladesh.....	23

Box 3: Salient features of the National Library Policy 2001	25
Box 4: Common Services of public libraries around the world.....	53
Box 5: Common services for children available in public libraries around the world.....	59
Box 6: Training opportunities for the library professionals	63

Acronyms

3-D	Three-dimensional
3G	Third generation cellular internet
A2i	Access to Information
ADB	Asian Development Bank
ADP	Annual Development Plan
BALID	Bangladesh Association of Librarians, Information Scientists and Documentalists
BASIS	Bangladesh Association of Software and Information Services
BBS	Bangladesh Bureau of Statistics
BCC	Bangladesh Computer Council
BLAST	Bangladesh Legal Aid and Services Trust
BRAC	formerly Bangladesh Rural Advancement Committee
BSK	Bishwo Shahitto Kendro [World Literary Center]
DBBL	Dutch-Bangla Bank Limited
EMK	Edward M. Kennedy
EWU	East West University
EWULIBMIS	East West University Library Management Information System
FAB	Friends of Archives, Bangladesh
GIS	Global Impact Study
GO	Governmental Organization
GoB	Government of Bangladesh
GPS	Global Positioning System
HRD	Human Resource Development
ICT	Information and Communications Technology
ICT4D	Information and Communication Technologies for Development
IDRC	International Development Research Centre
IDS	Institute of Development Studies
IFLA	International Federation of Library Associations
IID	Institute of Informatics and Development
INGO	International Non-Governmental Organization
IRRI	International Rice Research Institute
IT	Information Technology
KII	Key Informant Interview
LAB	Library Association of Bangladesh

LAN	Local area network
LIS	Library Information Services
MJF	Manusher Jonno Foundation [Foundation for Human Being]
MoE	Ministry of Education
MoF	Ministry of Finance
MoPME	Ministry of Primary and Mass Education
NGO	Non-Governmental Organization
NHLDC	National Health Library and Documentation Center
PC	Personal Computer
PMO	Project Management Office
POPIN	Population Information Network
RFID	Radio frequency identification
RIB	Research Initiatives Bangladesh
RTI	Right to Information
RTM	Research, Training and Management International
RTN	Regional Training Network
SASEC	South Asia Sub-regional Economic Cooperation
SFYP	Sixth Five Year Plan
SMS	Short Message Service
SPSS	Statistical Package for the Social Sciences
SSC	Secondary School Certificate
UDL	UGC Digital Library
UGC	University Grants Commission
UISC	Union Information Service Center
UK	United Kingdom
UN L-Net BD	UN Library Network in Bangladesh
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
US	United States

1 US Dollar = 78 Bangladeshi Taka

Executive Summary

Innovative library initiatives and their positive impact around the world have reemphasized the need for more investment in public libraries. The Government of Bangladesh has also shown renewed interest in reviving public libraries, given their importance in developing social capital, establishing knowledge communities and reviving creative learning.

In view of this, the British Council, in collaboration with the Government of Bangladesh, BRAC and the Bengal Foundation, commissioned a comprehensive study – *A Library Landscape Assessment of Bangladesh*. This involved series of interconnected field and desk research to explore both the information needs of the people of Bangladesh and the current library information services (LIS) provision within the country, with the ultimate aim of identifying stakeholders, the opportunities and challenges that exist in making radical improvements to the situation. The Institute of Informatics and Development (IID) was contracted to carry out the research and analysis tasks of the study.

The library landscape assessment methodology at a glimpse

There are 68 government public libraries, 1,603 non-government public libraries and 3,596 NGO-operated libraries across Bangladesh. In addition, there are e-centers, i.e. ICT-based public access venues such as cybercafés, telecenters and 4,547 government-installed rural Union Information and Service Centers (UISCs).

A total of 451 venues, 34 government public libraries, 20 privately-owned public libraries, 81 NGO-run libraries, 1 community library, and 315 e-centers were surveyed randomly for this study. A total of 2,049 users, 769 library users and 1,280 e-center users, participated in the user survey from the selected venues. In addition, a total of 4,585 people proportionate to the population level of their respective district participated in the household public survey from 35 districts. To explore detailed information needs and information searching behavior, 200 respondents from 10 different occupation categories were interviewed.

Library status

Number of library users is increasing, but only from certain groups

Most librarians observed that trend in library use is on a rise; yet, merely 6 percent people go to the libraries. On the other hand, about 26 percent people are e-center users, and this number is increasing too.

Only the erudite comes to libraries while e-centers serve all. About 65 percent of the library users have at least completed their high schools and mostly comprise of students and

service holders. On the contrary, e-centers users have diverse level of education and occupation. One-third of them have no education or have attained primary education at best.

Users are mostly from middle and lower middle income group. About 58 percent library users and 68 percent e-center users came from middle-and lower-middle income groups (with family income between BDT 5,000 and BDT 20,000).

Role of libraries is highly valued

Almost everyone who goes to library thinks that libraries are highly valuable for a society. Most of the women users believe libraries have empowered them by improving decision making capacity, developing skills and finding better jobs.

People have a mixed perception about the libraries in Bangladesh. About 63 percent users think Bangladeshi libraries are not technologically modern. Almost half of the users also think library services are not creative enough and lack innovation. Still most of the users expressed that librarians have skills to meet their demand.

People seek information, but not from the libraries

Household survey revealed people's most sought information, in order of importance, is related to health, government services, education, disaster preparedness, financial services, employment, skills development and government's safety net programs. Meanwhile, compared to the libraries, e-centers are ahead in meeting people's information demand.

Status of building and infrastructure

Libraries are well located and visible

Venue survey revealed that 70 percent libraries are located on main roads, 83 percent have visible entrances and 73 percent have signboards making them even easier to locate.

Dedicated rooms for different uses are often absent

About 48 percent of the surveyed libraries have dedicated reading rooms, 63 percent have separate space for computer and ICT services and only one-third have separate meeting rooms and hall rooms.

Seating capacity is dissatisfactory in many libraries

Considering the demand, 27 percent library users expressed medium to high dissatisfaction about seating capacity of the libraries they visit.

Comfortable ambience, uncomfortable toilets

About 60 percent library users thought libraries have adequate lighting and ventilation facilities. However, toilets – one of the most important facilities– is missing in 44 percent of the surveyed libraries. Of those who have, 41 percent are unusable and only 37 percent have separate toilets for female users.

Availability of library resources

Reading materials are mostly traditional and insufficient

Print materials generally dominate in the libraries of Bangladesh but such materials are insufficient according to 52 percent of the librarians (from all types of libraries). About 78 percent of the library users are dissatisfied due to unavailability of digital resources.

Computers and internet are there, but mostly not for public use

Though 78 percent of all libraries have computers, 56 percent of do not have any computers for public use. About 51 percent of libraries and 98 percent of e-centers have internet connections. Only 4percent of the government libraries have internet services available for the public. However, library user survey data shows that about 25percent and 13percent of library users (regardless of type of library they visit) come to the library to use computer and internet services.

Office equipment are insufficient

Office equipment such as photocopiers, printers, scanners, etc. are essential but absent in many libraries. Only 22percent libraries have photocopiers and 48 percent have printers.

Only one-third of the libraries have backup power

Most libraries and e-centers have electricity connection, with only 25 percent libraries having backup power supplies. As e-center services are mostly ICT driven, over 74 percent e-centers are found to have power backup systems.

Services of LIS

Socio-cultural services are scarce in libraries while book-centric services dominate

Knowledge services such as book reading and lending are available in all libraries. However, meeting the cultural needs of people, another important function of a library, is not much available in our libraries. Library survey showed that only 9 percent government libraries hold movie shows and merely 1 percent use their space for organizing seminars or meetings. On average, 10 percent of library users visit a library to participate in cultural functions,

attend exhibitions or participate in competitions and training, which reflects on a lack of such facilities at a library.

Equity and inclusiveness for all is yet to achieve

Though public libraries are meant to serve all segments of a society, most of them do not provide facilities for people with special needs and special facilities for women. Children specific facilities are present in most (59 percent) of the libraries and 86 percent users are found to be satisfied with such services.

Most of the librarians are trained

About 92 percent of librarians have training of varied duration and types.

Inter-library resource sharing is quite rare

Institutional and infrastructural setup for inter-library resource sharing is absent in Bangladesh, with only 12 percent of libraries reported to have such sharing network.

The Future Library of Bangladesh

Demand for multipurpose use of library is quite high

People want the libraries to serve as a one-stop hub to meet their knowledge, information and community needs. Library users said that a library can be used for various competitions (45 percent), training, workshop or classes (43 percent) and for art exhibition (40 percent). Librarians opined that to best serve as a multipurpose library, they need to prioritize on improving computer facilities (86 percent of librarians), getting internet connectivity (85 percent of librarians), introducing community services (64 percent of librarians) and making food available (60 percent of librarians) within library premises.

Literature books, computers and internet connection are of high demand

According to librarians, most demanded reading materials are about literature, newspapers, religious books, historical or politics related books, etc. Library users opined that computer (93 percent), internet (84 percent), photocopy machine (83 percent), printer (79 percent) and scanner (73 percent) are the most important resources for a library.

Key Challenges

Weak linkage with national policy framework

With much emphasize in policy documents Public Library Policy 2001 remained as the only policy governing the public libraries in Bangladesh and a legislative instrument is yet to be enacted.

Sluggish public investment in library development

Public investment for ministries that deal with information services (e.g. Ministry of Cultural Affairs, Ministry of ICT, Ministry of Information and Ministry of Posts and Telecommunications) have remained at a very low level.

Insufficient space is a major infrastructural concern

Space insufficiency is a serious problem for almost 50 percent of the libraries.

Insufficiency of reading materials and ICT resources remains to be a challenge

Resource insufficiency (lack of reading materials and audio/video contents) and insufficiency of ICT facilities are serious challenges for libraries according to 32 percent and 43 percent of the librarian.

Libraries are not well-promoted

For 21 percent of librarians surveyed, the level of public awareness of library services is a serious barrier.

Staff management and budget are major concern for libraries

About 25 percent librarians opined that lack of trained staff is very problematic for their libraries, while 68 percent of librarians expressed dissatisfaction of varying degrees on staff salaries. Over 59 percent of them expressed moderate to high dissatisfaction over annual budget of the library. Only about 14 percent of the libraries are reported to have sustain a profitable business' in operating the libraries.

Actions required

Approaches for developing a modern public library

Global experiences of innovative approaches to renovate libraries facilitating currently popular multipurpose concept and inclusiveness in design, resources and services should be seriously considered while planning to develop public libraries.

Improving library infrastructure

For ensuring better ICT integration, LAN connectivity of the computers and Wi-Fi connectivity facilities need to be introduced. Availability of digital content in audio-visual format, mobile friendly view, and standard internet speed requirement for accessing any content should be ensured.

Modernizing resources

Libraries need to have computers, internet connections and other accessories for public use to provide information services to the community. While upgrading resources, global trend, popularity and community demand must be taken into consideration.

Capacity building of the librarians

ICT competencies of the librarians must be improved through training. To facilitate two-way knowledge transfer between libraries and communities, libraries need to organize community events.

Promoting libraries and their benefits

Public libraries should include promotional activities like early literacy programs for children, *multicultural festivals, youth cultural events, different types of workshops, classes or training sessions, book fair, writing or art competition, art exhibition, etc.* and promote them through e-mail, SMS, advertising in library or community notice boards or through library staff. Mobile libraries can be a solution to ensure public library's *outreach to transport facility deprived people.*

Revising the governance and budget framework

A possible solution to the budget issues could be *formation of consortia* involving relevant government ministries, private organizations, foreign donors and local and foreign NGOs along with establishment of inter-ministry liaison within the government to avoid duplication of effort.

1 Introduction

1.1 Background and rationale of the study

The global response towards the future of libraries in the changing landscape of the digital world has been a mixed one—with both apprehension and optimism apparent in equal measure. On one hand, public interest has shifted from the “real” world to the “virtual” world in terms of knowledge, entertainment and community. On the other, resource constraints in a least developed country like Bangladesh have long kept libraries outside public investment priorities. Public libraries, a long-established source of knowledge, were left behind even in government and non-government initiatives to promote access and the right to information through legal and technological reforms.

However, innovative library initiatives and their positive impact around the world have reemphasized the need for more investment in public libraries. The Government of Bangladesh has also shown renewed interest in reviving public libraries, given their importance in developing social capital, establishing knowledge communities and reviving creative learning. The Government of Bangladesh, BRAC, Bengal Foundation and the British Council have formed a consortium to work together for the advancement of Bangladesh’s public libraries. This study was commissioned by this Consortium to assess the existing status of Library and Information Services (LIS) as well as to understand public demands and expectations from libraries.

1.2 Objectives of the study

The study assesses the current LIS landscape to identify the opportunities and challenges for improving public libraries in Bangladesh. The **successive objectives** are to evaluate the current status of LIS, to understand the goal for future libraries, identify the challenges and finally to set actions needed to reach that goal. To achieve this, the **specific objectives** of the study are:

- a) **To conduct research into the information needs of the people of Bangladesh;** to understand how people are accessing the information they need; to assess the current effectiveness of public libraries and information centers in providing public access to meet those needs; to assess current perceptions of public libraries; and to identify what is needed to improve the libraries.
- b) **To assess the current status and capacity of LIS in Bangladesh;** to assess the effectiveness of library staff in facilitating public access; to understand government and national policy and prioritization for effecting improvements; and to identify the opportunities for (and barriers to) building a national program to improve LIS provision in Bangladesh.

c) **To assess the current availability of ICTs to support access to information in LIS;** to survey government and non-government initiatives for ICT development, connectivity and access to information through LIS; and to indicate prospects for further expansion of public access.

2 Methodology

2.1 Scope of LIS

The definition of LIS for this study goes beyond the 68 government public libraries that exist in Bangladesh. Information services in Bangladesh have diversified beyond libraries, with the increasing presence of both government and non-government public access venues such as cybercafés, telecenters, and other ICT-based information service centers. In order to modernize public libraries, it is essential to thoroughly assess Bangladesh's diversified LIS landscape.

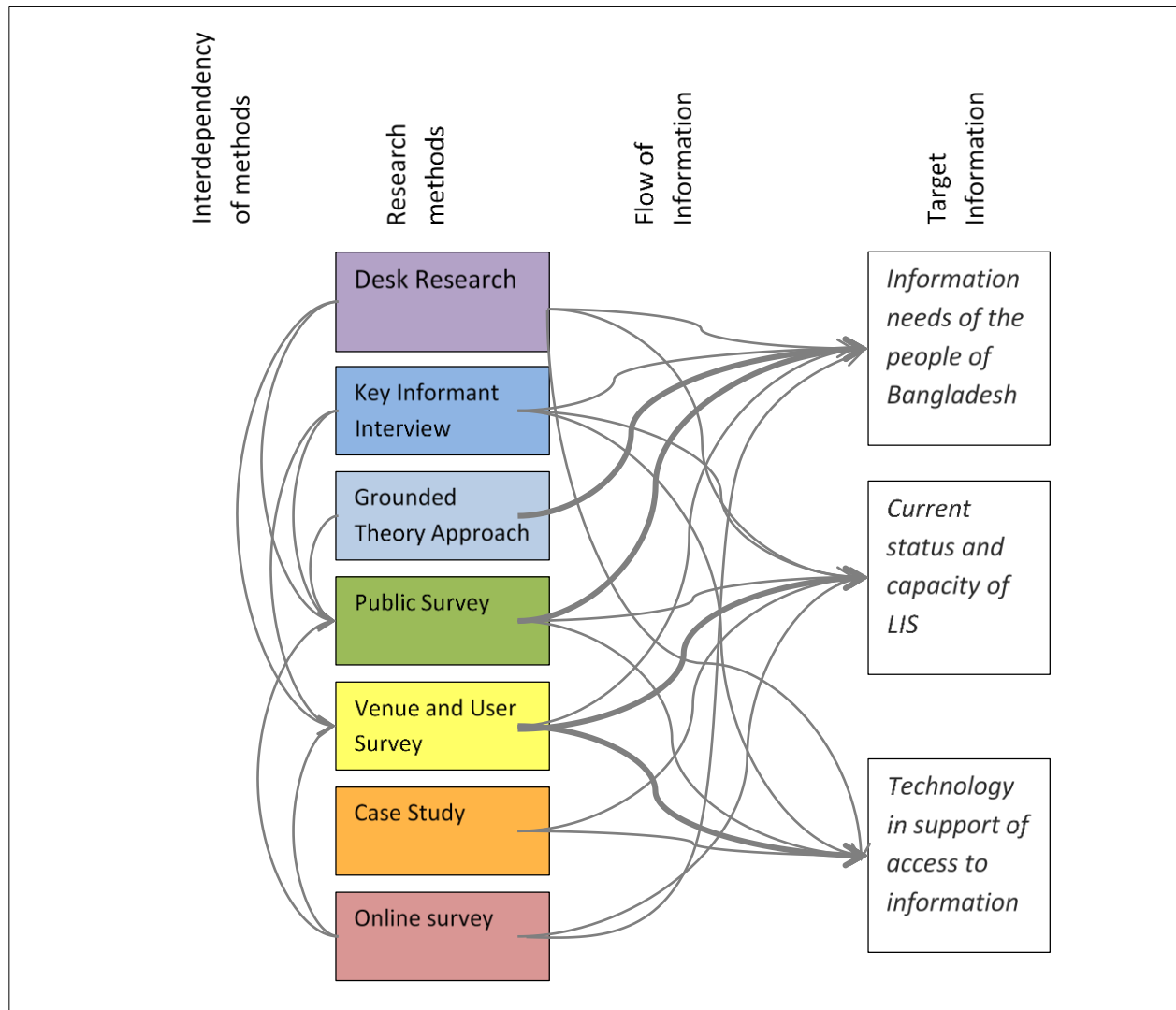
This study uses a definition of LIS that includes:

- physical and virtual spaces for accessing books/other print and digital content/information;
- public information centers with digital capacity and access;
- educational and cultural centers with community convening space;
- physical and virtual infrastructure and content resources that can be accessed by the public; and
- professional staff that manage the resources and facilitate public access.

2.2 Research design

This study has undertaken a multifaceted yet inter-connected research approach using various complementary methods, viz., desk research, key informant interviews, exploratory research with grounded theory approach, field survey, online survey and in-depth case-studies which are briefly described in section 2.3. A detailed methodology, including the complete sampling techniques and data collection process, is presented in Annex 1.

Figure 1: Research design: complementarity of methods in achieving the objectives



2.3 Methods of data collection

Qualitative and quantitative data were collected using the following methods:

Desk research and literature review: Extensive desk research was conducted by exploring government policy documents and scholarly literature on LIS.

Key Informant Interview (KII): Key informants were interviewed with a semi-structured interview checklist as part of the in-depth study. The key informants were policymakers and government officials, academics and experts, librarians, library activists, members of professional associations and officials from local and international NGOs. A list of interviewees is presented in Annex 2.

Exploratory research using grounded theory approach: To explore information needs and information searching behavior, a total of 200 respondents from 10 purposively selected different occupations were interviewed using a semi-structured interview checklist. Using the grounded theory approach,¹ their regular activities and future plans were documented in seven common areas: (a) health, (b) education, (c) economic activities, (d) purchasing goods of daily necessities, (e) banking and finance, (f) government and governance related services, and (g) cultural and leisure activities.

Field Survey: Four distinct surveys were designed and administered to address the research questions, of these surveys, three surveys (venue survey (i.e. library and e-center); user survey; and public survey) were conducted face-to-face and another was conducted online through a social media campaign.

Table 1: Survey design

Type of survey	Respondents	Number of responses
Venue survey	Total number of libraries	136
	Government Public libraries	34
	Privately owned public libraries	20
	NGO libraries	81
	Community libraries	1
	Total number of e-centers	315
User survey	Library user	769
	e-center user	1280
	Total user	2049
Public survey	Non-user and ex-user	3208
	Library user	169
	e-center user	1099
	Both user	109
	Total public	4585

Note: Survey was conducted in **120 upazilas** from **35 districts** of Bangladesh.

A total of **451 venues**, covering **libraries** (government public libraries, privately owned public libraries, NGO driven libraries like *Gonokendra Pathagar* of BRAC, community libraries, etc.) and **e-centers** (UISCs, tele-centers, cybercafés, etc.), were randomly selected.

¹ The *grounded theory approach* is a qualitative research method that systematically gathers and analyzes the information ecology of a community by observing information used to undertake activities or make decisions by the community members in their daily lives. For detail see Annex 1.

A total of **2,049 library and e-center users** participated in the user survey from the selected venues. On average, 10 users from each public library and 4 users from each of the other types of venues were selected.

A total of **4,585 people** participated in the household public survey from 35 districts in Bangladesh. They were distributed proportionately to the number of population of the respective district. The purpose of this survey was to explore their information need, information usage, their demographic profile, general perception about LIS and the reasons behind using (for users) and not using (for non-users) LIS venues.

Online survey leveraged through social media: An online survey was initiated at www.obhimat.com/lis. This online survey was leveraged through a social media campaign to create awareness about the study among the public.

Case studies: Five case studies were prepared on selected libraries. The libraries were chosen based on their demonstration of best-practices in successful operation, innovative ideas and use of modern technologies.

2.4 Addressing research constraints

The study was conducted keeping in mind the following research constraints and limitations:

- i. Despite various levels of supervision, field surveys suffer from common data problems such as high survey attrition, enumerator bias and data input error. To address these, the survey was conducted with handheld tablet-computers using a survey application. This safeguarded against the systematic and logical errors that come with pen-and-paper based surveys, and ensured real time monitoring. Time-stamps and GPS-enabled tablet computers also ensured enumerators' accurate presence in the locality, and enabled geospatial mapping. Detailed hands-on training of the enumerators was given on the concept of the study, content communication strategy and handling of the tablet computer.
- ii. Heterogeneity exists in different types of LIS (e.g. among libraries and cybercafés) in terms of their types, services and variation, and comparability is limited in many cases.
- iii. The general public's lack of awareness of information availability and applicability is a challenge when trying to explore their information demands. To overcome this challenge, the complementary approaches of the public survey and grounded theory were employed.

- iv. Rural, urban and semi-urban areas lack homogeneous clustering and “semi-urban” is vaguely defined. For methodological clarity, Population Census 2011 of Bangladesh Bureau of Statistics (BBS) was taken as a sample framework.
- v. Political unrest was a big challenge which may have affected the number of users of LIS. Thus, during data collection, respondents were asked to provide information considering normal activities in the past six months.

Respondent rights were strictly maintained and their consent was taken into account for participating in the survey, based on awareness of the survey and its overall purpose. Confidentiality of their identity and responses was ensured.

3 Library Landscape of Bangladesh

3.1 History and background

Bangladesh has a rich history of information archiving dating back to the 3rd century BC where religious places called *Bihars* played a key role in preserving knowledge in the form of palm leaf scrolls and documents, bark of trees, parchment vellum and burnt clay plates. The first royal library was established by the Hossain Shahi dynasty during the medieval age. In 1835, the Public Library in Calcutta was established by private initiatives, although nowadays the commonly-held idea of a public library is that it is established and funded by the government (S. Islam, 2011). Bangladesh started off with four public libraries in 1854: -Woodburn Public Library in Bogra, Jessore Public Library, Barisal Public Library and Rangpur Public Library (Shuva & Akter, 2012), which were later on followed by a number of new libraries established between 1882 and 1901.² Three public libraries were established during the Pakistan era (1947-1971) including the Central Public Library of Dhaka in 1954, with full operation taking place from 1958 onwards.

The *Educational Reforms Commission* of 1957 emphasized that libraries should be promoted as “*people's universities*,” though actual library development in this respect moved at a very slow pace. During the post liberation period, UNESCO’s Library manifesto was of high importance to the Bangladesh government and reforms were initiated as part of the *First Five Year Plan 1978*, which included a library system reorganization plan. Since then, libraries of

²Including the public libraries of Sirajgonj (1882), Rajshahi (1884), Comilla (1885), Pabna (1890), Noakhali (1901), Khulna (1897), Natore (1901) and few more in Dhaka (Ahmed, 1998, p. 39). Later public libraries were established in Chittagong (1904), Cox’s Bazaar (1906), Munshiganj (1908), Rangpur (1909), Kishoreganj (1909), Kushtia (1954), Faridpur (1914), Khulna (1914), Dinajpur (1930) and Mymensingh (1930) and all of these libraries are in operation till date reflecting their consistently important role in the changing society.

Bangladesh have advanced significantly, mostly through NGO and private initiatives with policy support from the government.

Box 1: A typology of public libraries in Bangladesh

It can be said that there are three main types of public libraries currently operating in Bangladesh:

- government public libraries that are established, operated and maintained by the government;
- non-government public libraries that are owned and operated under private ownership; and
- NGO operated public libraries that are established by various NGOs and development partners.

Academic libraries, institutional libraries or special libraries that are accessible only to certain type of users i.e. not open for all members of the community are not considered as public libraries and therefore are excluded from this typology. Table 2 presents the number of different types of public libraries in Bangladesh (Islam and Ahmed 2012).

Table 2: Different types of libraries in Bangladesh

Government Public Libraries	
Central Public Library	1
Divisional Government Public Libraries	5
District Government Public Libraries	58
Branch Libraries	4
Non-government Public Libraries	1,603
NGO operated Libraries	
BRAC Gonokendra Pathagar	2,725
Rural Information Resource Centers (established by Community Development Library, CDL)	26
Ganokendro (established by Dhaka Ahsania Mission)	845

Source: Library Directory, 2011, Bangladesh National Book Center; Islam and Ahmed (2012).

Public libraries in Bangladesh have, however, exhibited some common global characteristics—a tendency to concentrate on traditional book lending services, a lack of public investment and a failure to adapt to the changing world order of information services. A lack of knowledge of technological developments has posed a threat to the installation or

development of ICT facilities in public libraries (M. S. Islam & Islam, 2007). Digitization has been mostly confined to the cataloging of library contents. Very little progress was observed in the application of computers in libraries and information centers between 1964 and 1997 (Ahmed, Munshi & Ahmed, 1997).

In spite of this, many library and information centers are now initiating upgrades into digital content and becoming part of the global library resource pool through library consortia. In the case of university libraries, the University Grants Commission (UGC) of Bangladesh has taken initiatives for digital resource consortium in Bangladesh (M. A. Islam & Mezbah-ul-Islam, 2000).

Box 2: A typology of e-centers in Bangladesh

E-centers are government or privately own information centers that provide information services along with various ICT solutions that people require in their daily life. In most cases, e-centers are business ventures and income from services is the key factor for their sustainability. For the purpose of this study, three types of e-center have been considered:

- a. **Telecenters** are any public access venue, either under public or private entrepreneurship, where people can have access to ICT services. Most of the telecenters are in rural areas and they provide assisted service to the users.
- b. **Cybercafés** are usually privately owned for-profit ventures that provide public access to computer, internet and other ICT services. Cybercafés in Bangladesh are usually urban centric. A key difference between a telecenter and a cybercafé is that unlike a telecenter, a cybercafé usually does not provide assistance in services.
- c. **Union Information and Service Centers (UISC)** or Union Digital Centers are government initiated one-stop centers that provide information and services related to government, livelihood and private services. One UISC is located in each of all the 4,547 Union Parishads, the lowest tier of local government. They are operated under 'Public-Private-People' Partnership (PPPP) i.e. run by local entrepreneurs, hosted by the Union Parishad and supported by central administration.

The Bangladesh government has included the initiative of providing information services throughout the country as part of its **Vision 2021** and the campaign for a **Digital Bangladesh**. Union Information Service Centers (UISCs) have been established through the "Access to Information" (A2i) program of the Prime Minister's Office in **4,547** unions, enabling public access to information and government services. E-service centers have also been

established at all district headquarters. Currently, the post-office network is under development to serve as information and e-service centers.

Public libraries, in line with the modern global concept of a library, could play an important as well as central role to this campaign for information services. However, inadequate allocation of financial resources (Chowdhury, Uddin, Afroz, & Sameni, 2011), weak ICT Infrastructure, lack of trained library and information service providers (Alam, 2012), lack of collection creation, management, preservation and archiving, and interoperability (Rahman, 2012) have been identified as major barriers to library modernization in Bangladesh.

3.2 Governance and budgetary framework for public libraries in Bangladesh

3.2.1 Policy and legal framework

The governance of public libraries in Bangladesh is very weakly linked with the policy framework of the country. Despite the government's willingness to modernize the information services of the country, the role of the public library as a hub for information services is yet to be recognized. For a complete appraisal of the status of public libraries and exploring the roadmap to modernize the library landscape of Bangladesh, it is essential to scrutinize the government's plans, pledges and the policy framework that regulates public libraries.

The *National Library Policy 2001* is the first and until now the only policy for governing the libraries in Bangladesh. Recognizing the role of public libraries in spreading education and developing human resources, and in meeting the information needs of people from all segments of the society, the Policy provides guidelines for better operation and management of libraries as well as the modernization of library services. The salient features of the policy are briefly presented in Box 2. But still no legal framework has been enacted to enforce implementation of the Policy and govern the libraries.

Till 2001, there were no national policy guidelines for the governance of public libraries; however, the *National Book Center Act, 1995* (Act no. XXVII of Bangladesh Extraordinary Gazette) and the *National Archives Ordinance, 1983* are probably two most important policy documents providing guidelines regarding the publication and distribution of resources and reading materials among public libraries. The *Nazrul Institute Ordinance, 1984* and the *Bangla Academy Ordinance, 1978* provide guidelines for the establishment and operation of specialized libraries for those institutions.

Some of the key points from the *National Library Policy 2001*:

- Modernize and enrich the resources, services and security of the libraries involving both public and private sectors in this effort.
- Expand the library network to equip every citizen with a library within 1 mile of his/her residence.
- Establish libraries in academic and religious institutions to promote reading habit.
- Preserve rare documents.
- Employ trained professionals in library operation and management.
- Enact separate laws for national library and public library.
- Develop a regulatory system to coordinate and monitor private libraries.

Despite insufficient legal or policy framework for the libraries, the government's willingness to develop public libraries can be visible through its various planning documents. The *Education Policy 2010* recognizes the importance of libraries for ensuring quality education, and emphasizes on establishing modern libraries in academic institutions. Guidelines are also provided for the establishment of public libraries at district, city, municipality, upazila and union headquarters. The formation of statutory and effective library council, involving the line ministries i.e. Ministry of Education, Ministry of Primary and Mass Education, Ministry of Cultural Affairs and Local Government Division, is highly emphasized for holding them responsible for policy making and coordinating and undertaking development programs. *Vision 2021* - the base of the incumbent government's election manifesto, and *Perspective Plan of Bangladesh 2010-2021* - the long term planning document of the government - emphasized the need for improving library services to ensure quality of education. The *Sixth Five Year Plan (SFYP)* also stretches over development of the education sector through establishment of a modern library network system at national levels. The SFYP also calls for enacting legal instruments for governing national and public libraries to ensure that they are able to meet the educational, cultural, recreational, and information needs of people from all walks of life.

Meanwhile, through the flagship campaign of Digital Bangladesh, the government has attempted to make public services available to people's doorsteps through e-services and has introduced e-governance to ensure transparency. Under the Access to Information (A2I) program, e-service centers were established in all of the 64 district centers and 4,526 union centers; 178 post offices are undergoing transformation to serve as e-centers. Tele-density and internet penetration have increased while internet connection technology has been improved. The internet network has been expanded up to upazila level and a regional network

among SAARC countries is under development. The regulatory authorities for telecommunications and electronic mass media have been strengthened.³ The government formulated the *ICT Policy 2009* to focus on the effective use of ICT for social development and to ensure access to information for all. The policy also provides guidelines for developing infrastructural facilities to assist the goals of Digital Bangladesh.

Unfortunately, this revolution in the ICT and information services has bypassed the potential of public libraries as one-stop hubs of knowledge and information services. Thus a supportive policy environment is essential to make effective use of public libraries for this purpose. Towards this goal, the governance framework of public libraries and scope for inter-ministry as well as public-private collaboration need to be explored.

3.2.2 Governance framework

The Department of Public Libraries under the Ministry of Cultural Affairs is the governing and regulatory authority of libraries in Bangladesh. The National Book Center and the Department of Archives and Libraries under the same ministry are also involved in terms of publication and distribution of library resources.

The Ministry of Education and the Ministry of Primary and Mass Education have obvious interest given the role of libraries in ensuring quality education. The Ministry of Religious Affairs also holds the responsibility of libraries based in religious institutions.

The digitization and automation of public libraries will need the active involvement of the ICT Division under the Ministry of Posts, Telecommunications and Information Technology. The Access to Information (A2I) program under the Prime Minister's Office is the focal point of implementing information service access points (e.g. UISCs and other public e-centers) and other ICT driven e-service and e-governance solutions. Local government is also playing a collaborative role in this initiative. Diversifying the role of future public libraries would need a close collaboration among all these government institutions.

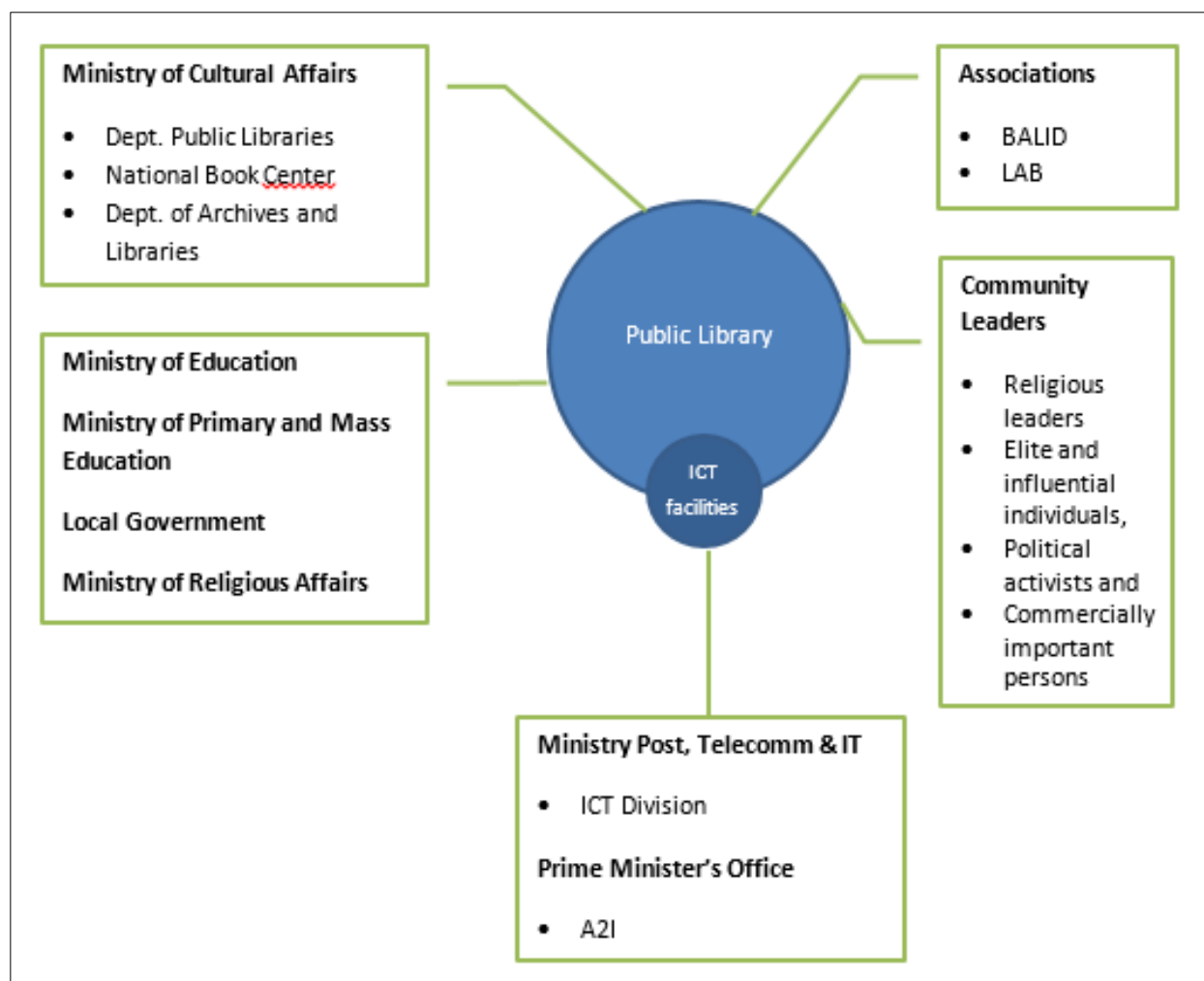
The associations of library professionals such as Bangladesh Association of Librarians, Information Scientists and Documentalists (BALID) and Library Association of Bangladesh (LAB) also play a vital role in the LIS landscape.

Finally, community leaders can also be highly influential in developing or operating a public library. Religious leaders, elite and influential individuals, political activists and commercially

³ For more details on development in ICT sector and related services, consult *Digital Bangladesh Concept note (A2i)*, and *Progress towards Digital Bangladesh (MoF)*.

important persons of the community can play a significant role in mobilizing funds or operating public library services.

Figure 2: Governance framework of a public library

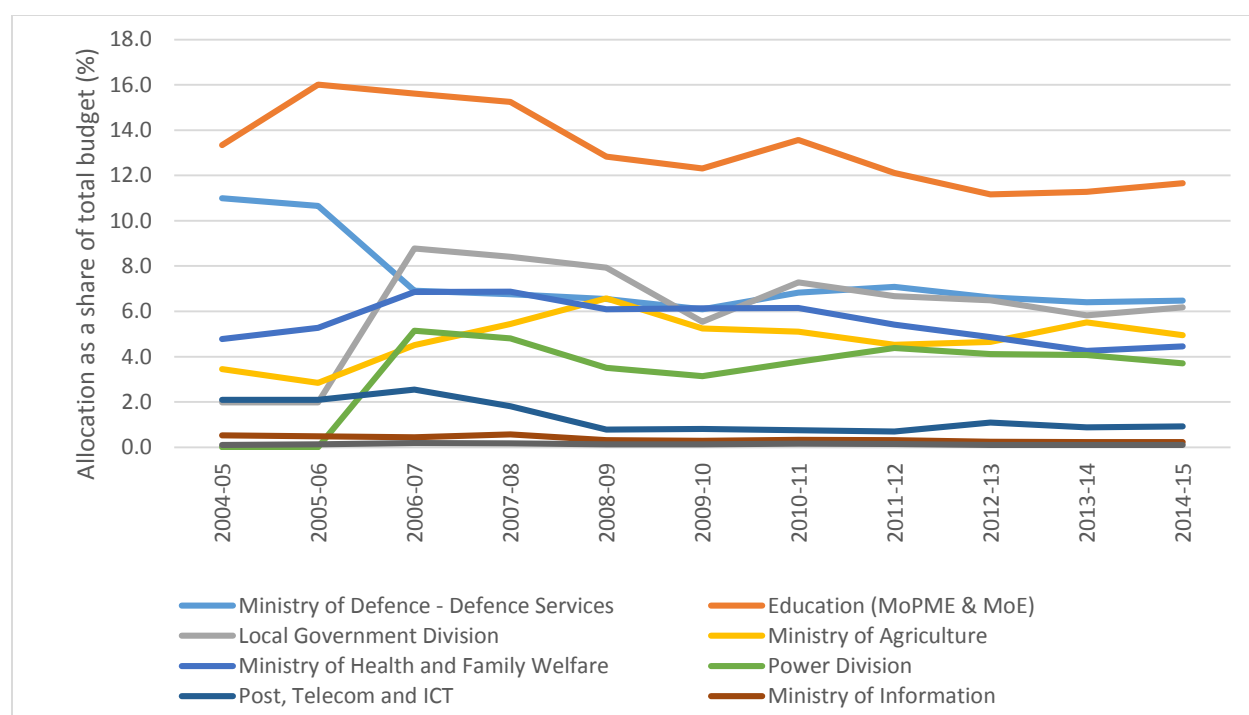


3.2.3 Budgetary framework

Information services have for some time been a destination for the global economy (Bell, 1976, Lamberton, 1985). Unfortunately, in poorer countries like Bangladesh, resource constraints have compelled successive governments to prioritize investment in physical infrastructure, industry, energy or key social issues such as education and health, which are directly linked to mainstream socio-economic development. The key role of libraries and information services in delivering these priorities is not strongly perceived. And, despite many governments recognizing information services as the key driver of a modern society, investment in information infrastructure remains at low level in these countries (Heitzman 1990).

At this point in time, Bangladesh is not much different from the trend. The national budget is one of the key channels through which government allocates resources to realize its development priorities and commitments. A trend analysis of budgetary allocations for different ministries as a share of total budget reveals that sectors such as defense, local government, agriculture, education, health and power are traditionally receiving the highest shares of resources over the last decade (Figure 3), whereas ministries that deal with information services (e.g. Ministry of Cultural Affairs, Ministry of ICT, Ministry of Information and Ministry of Posts and Telecommunications) have remained at the very lowest levels in terms of share of total allocated resources.

Figure 3: Allocation trend of selected ministries as a share of total budget.



Source: Ministry of Finance (MoF)

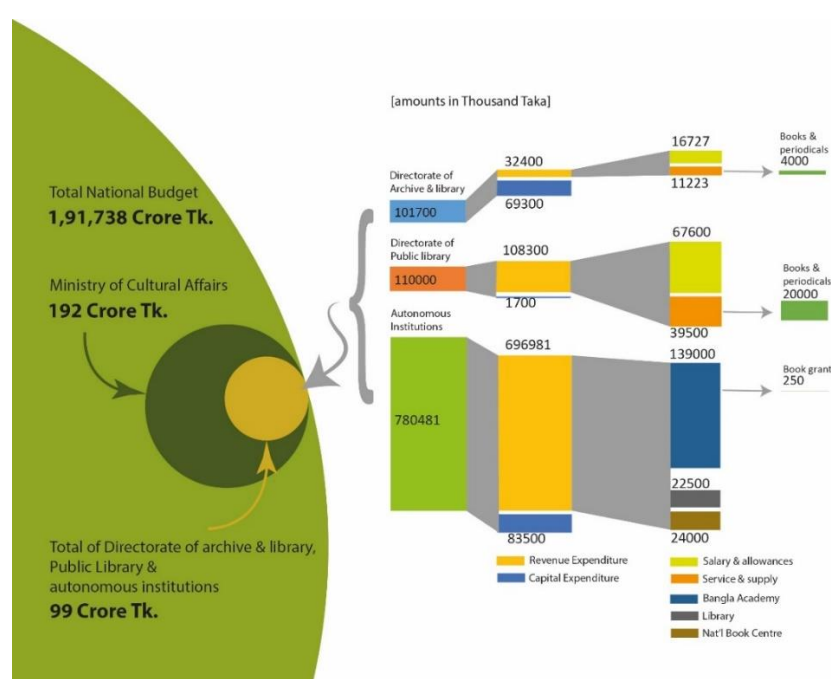
Nevertheless, the government has the unequivocal intention for building a modern and equal society facilitated by ICT services in all steps of life. The flagship campaign of *Digital Bangladesh* has certainly brought information services onto center stage. With the versatile use of ICT and information services, the government aims to bring public services to people's doorsteps. In doing so, along with reinforcing those commitments through the necessary policy, legal and regulatory supports⁴, the government has put efforts in realizing them

⁴ RTI Act, ICT policy 2009; digital Bangladesh strategy (2011-2015)

through investment in programs to develop information infrastructure and service facilities.⁵ Public investment in developing ICT sector has been increased from BDT 2.35 billion in FY2009-10 to BDT 3.94 billion in FY2014-15.^{6,7}

Meanwhile, the allocation scenario for the Ministry of Cultural Affairs and its associated agencies such as Directorate of Archives and Libraries, Department of Public Libraries and National Book Center, which are designated for library governance, is unimpressive (Figure 4). Budget allocation for the Ministry of Cultural Affairs in FY2012-13 was merely 0.1 percent of the total national budget. About 50 percent of this miniscule amount was earmarked for its agencies.

Figure 4: Allocations for Ministry of Cultural Affairs and its agencies in comparison with the total national budget.



Source: Ministry of Finance.

⁵ A2I, UISC, e/m-Services, optical fiber, HRD in ICT – exams, trainings, smart classrooms, promotion of innovation through Digital innovation fair, digital world, digitization/automation of government services, etc.

⁶ USD 1 = BDT 78 (approximately)

⁷ Allocation in ICT sector includes revolving fund for ICT, revolving fund for ICT related institutions, revenue and develop budget for related ministries. A list of development projects in ICT sector can be found in MoF (2014).

Non-development budgets (earmarking regular expenditure such as salary and allowances, and other maintenances) for these government bodies have increased minimally over the years, with frustratingly low allocations for development projects (Table 3).

Table 3: Allocation for Ministry of Cultural Affairs and its agencies

Institution	2013-14 (Taka in Crore)	2014-15 (Taka in Crore)
Total Ministry of Cultural Affairs	235	258
Non-development	172	160
Development	63	98
Directorate of Archives and Libraries	5.5422	3
Non-development	3.0822	3
Development	2.46	0
Department of Public Libraries	13.1	14
Non-development	13.1	14
Development	0	0
National Book Center	2.495	3
Non-development	2.495	3
Development	0	0

Source: Ministry of Finance.

Heitzman (1990) stated that during the late 1980s, resource constrained South Asian countries, including Bangladesh, tended to shift their mode of development from large-scale centralized interventions towards decentralized smaller projects when it came to subtle development sectors such as information services. Compared with other sectors, a very low investment in library and information services, including the ICT sector, somewhat fits that model. The *Annual Development Plan* (ADP) for 2014-15 includes only one project titled “Mosque Library Expansion and Strengthening Project,” which was initiated in 2012.⁸ “Modernization of Bangladesh National Library,” undertaken in the ADP of 2012-13, is one recent success story in library modernization and the digitization effort of the government.⁹

ICT and libraries play a complementary role in the information services ecology. Attaining the government’s pledge for developing a modern, information-rich society will not be fulfilled if libraries – one of the most important information services – are not developed.

⁸ For the period of 2012-2015, allocated fund for this project is BDT 1,248 crore.

⁹ Total fund allocated for the project was BDT 9,310 crore.

The successful implementation of ICT projects through various initiatives can be considered as an example case where the government has realized its commitments bringing in resources from various government as well as donor-driven funds.

The model of the **Access to Information (A2I)** project under the Prime Minister's Office (PMO) can be a good example to follow in this regard and is worth some further illustration. A2I established a number of partnerships across government ministries and agencies, development agencies, NGOs and the private sector to leverage resources and their mobilization. For example, in order to ensure sustainability of the UISC business model, an agreement was made with Dutch-Bangla Bank Limited (DBBL), a local bank, to provide its money transfer system at UISCs. Another partnership was formed with Banglalink, owned by Orascom Telecom of Egypt, use UISC entrepreneurs as their mobile recharge agents as well as for supporting Multimedia Classrooms through distribution of computers and accessories. Similar strategic partnerships were formed with Bangladesh Association of Software and Information Services (BASIS) and the Intel World Ahead program. A2I forged partnerships with several NGOs, strategically chosen to serve the purpose of the UISCs. For example, the British Council provided a Computer-based English language training module for UISCs, Young Power in Social Action YPSA worked to sensitize the UISCs to the content requirements of people with special needs, D.NET collaborated in research and content development and the International Rice Research Institute (IFPRI) provided rice related content aimed at farmers and so on. Seizing on opportunities where synergies for specific activities existed, A2I developed partnerships with several development agencies including the ADB, the World Bank, UNESCO and UNICEF. The project also ensured in-kind and cash contribution by different ministries/agencies of the government to create a complete circle of partnerships in reaching the project goals. Its establishment within the PMO played a very important role, making the project everyone's priority. A similar strategy of collaborative resource mobilization could be employed to revitalize the library sector.

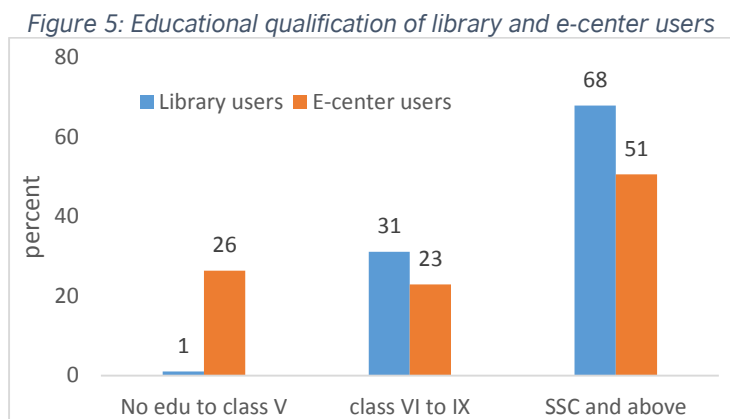
3.3 Users and uses

Among the 4,585 respondents surveyed during the household public survey, only 6.1 percent were found to be library users, while 26.3 percent were e-center users. Accounting for the overlapped users (users of both libraries and e-centers), 30.1 percent of household respondents were found to be LIS users (libraries or e-centers).

3.3.1 Education

From the library user survey conducted under this study, around 99 percent of the library users have completed at least primary level of education (Class VI and over). More than half (68 percent) of the library user's educational qualification are equal to or above SSC level.

Considering also the high rate of illiteracy of the country, lack of education can be assumed to have posed a hindrance to access to libraries.



Source: User Survey Data * Note: N=769 for library users, 1,280 for e-center users:

On the contrary, the education level of e-center users does not seem to have any relation with usage. About 51 percent of the e-center users' educational qualifications are equal to or above SSC level, 23 percent have class VI to class IX level education and the rest, 26 percent, either have no education or have education up to class V. The user mix is made up of all backgrounds of education or even uneducated users. This may have resulted from the assisted services provided through e-center operators, which has diminished the requirement of literacy to use the services.

3.3.2 Income

For both library and e-center users, middle and lower middle income groups (with family income between BDT 5,000 and BDT 20,000) make up the majority, consisting of 55 percent and 66 percent users respectively.

Figure 6: Monthly income of library users

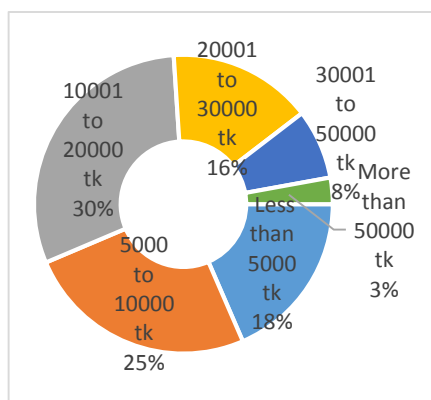
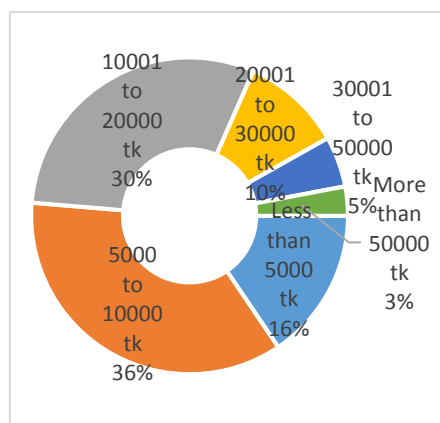


Figure 7: Monthly income of e-center users



Source: User Survey Data * Note: N=769 for library users, 1,280 for e-center users

3.3.3 Occupation

In regard to the profession of library and e-center users is concerned, **students are the majority** of the users (72 percent in libraries and 31 percent in e-centers) in both cases. It is found from the user survey of libraries and e-centers that non-government service holders are the second largest group (13 percent) among the library users. Businessmen are the second largest user group (18 percent) of e-center users. This data again reflects the educational background of library users and patterns of library services traditionally directed toward educational purposes.

Figure 8: Occupation of library users

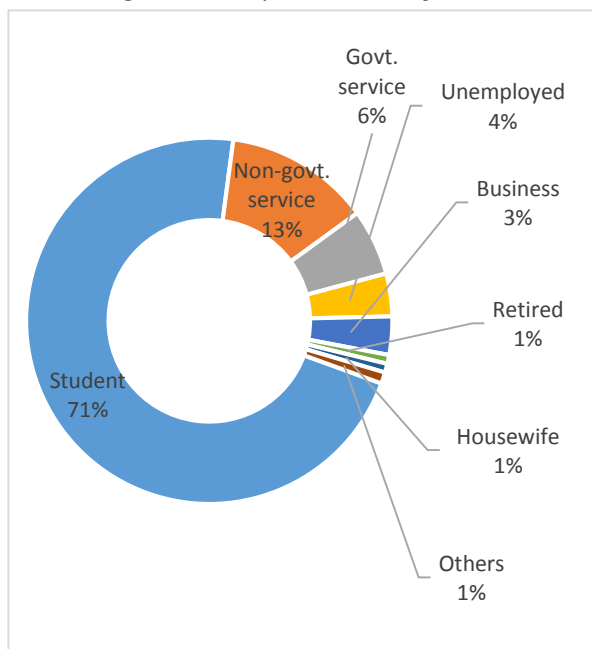
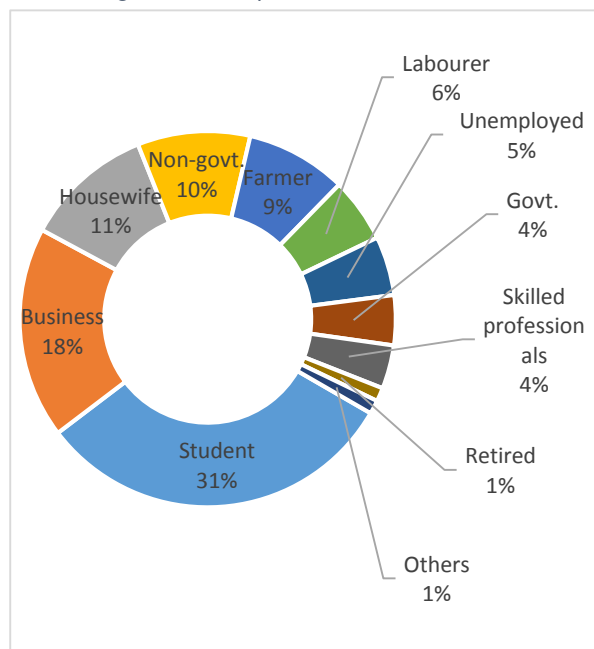


Figure 9: Occupation of e-center users



Source: User Survey Data * Note: N=769 for library users, 1,280 for e-center users

The survey data shows that on an average 24 children visit a library in a normal day. This number varies across library types, but not so much by geographic location. Government public libraries attract more child visitors (45 children a day) than private/community libraries (12 children a day) or NGO libraries (17 children a day). The daily average number of child visitors average is 24 a day for urban libraries, 23 a day for rural and 18 a day for semi-urban libraries.

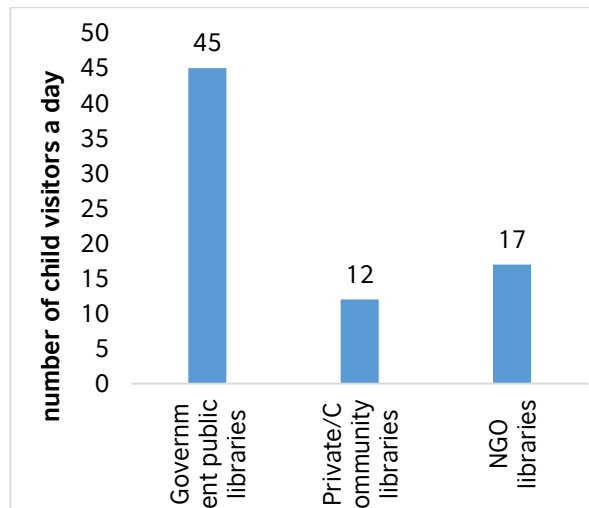


Figure 10: Daily child visitors by library types

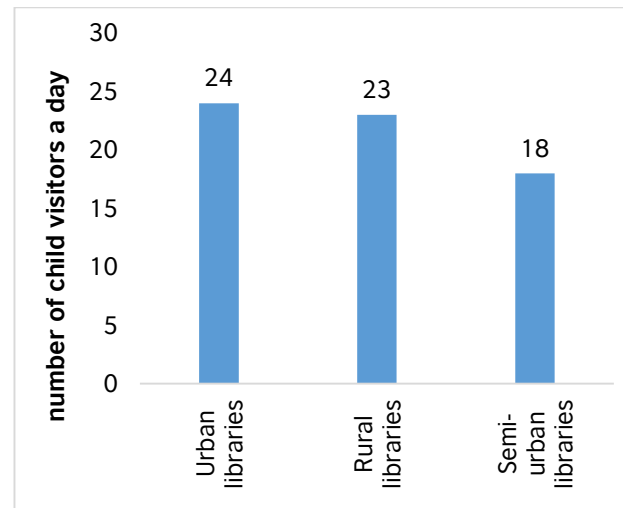


Figure 11: Daily child visitors by geographic location

Source: Venue Survey data * Note: N=136 for libraries and 315 for e-centers.

3.3.4 Trend in use

According to an overwhelming majority of both the librarians (84 percent) and the e-center operators (90 percent), more people are visiting all kinds of the LIS centers than before, irrespective of the geographic location of an entity (variations are insignificant).

Figure 12: Trend in no. of library users
(opinion of librarians)

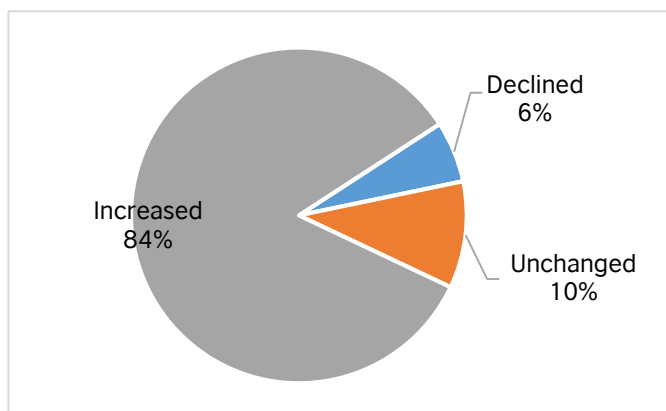
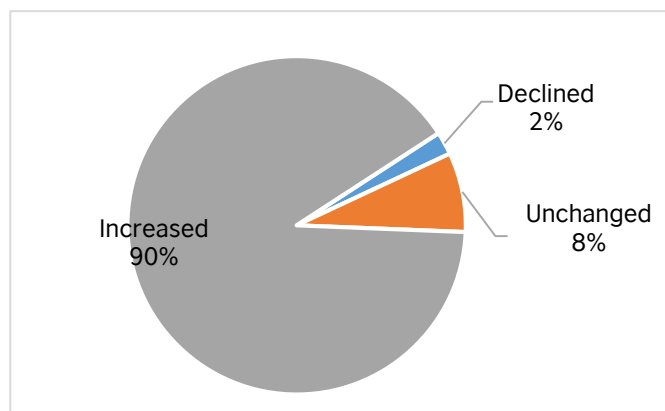


Figure 13: Trend in no. of e-center users
(opinion of e-center operators)



Source: Venue Survey data * Note: N=136 for libraries and 315 for e-centers.

From the library and e-center user survey, the average number of library users in a normal day was found to be 120. In the case of e-centers, the number is 45. These numbers vary across geographic locations. For libraries, the average number of visitors in a day was found to be 93 (rural), 120 (semi-urban) and 162 (urban).

The average number of visitors also varies between types of libraries. Public libraries receive the highest number, followed by non-government/personal ones. NGO libraries get the lowest number of visitors. On the other hand, cybercafés and other telecenters get a higher number of visitors compared to UISCs.

Figure 14: Average number of daily visitors (library)

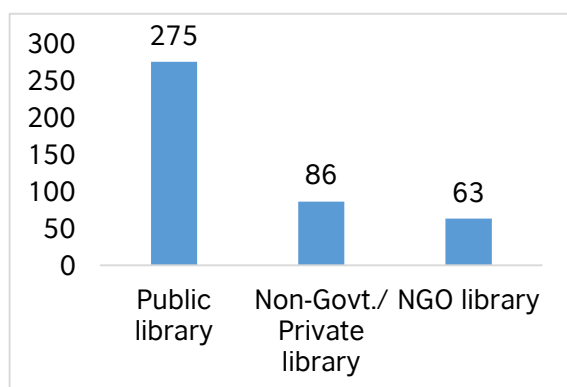
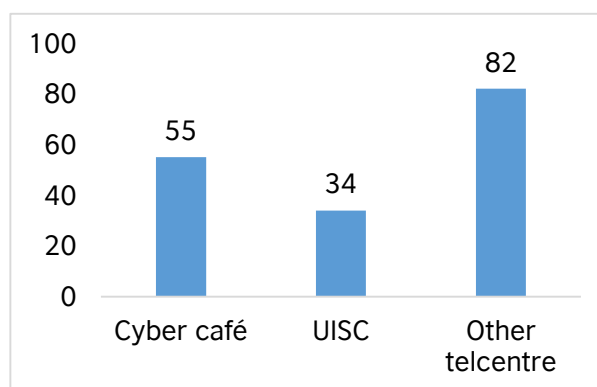


Figure 15: Average number of daily visitors (e-center)

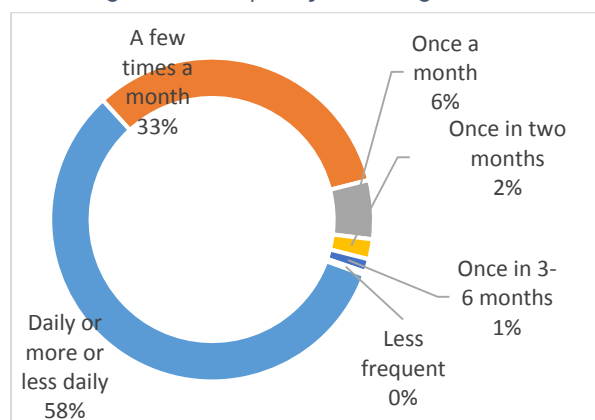


Source: Venue Survey data; * Note (figure 11): N=34 for public library, 21 for non-government/private library and 81 for NGO library. * Note (figure 12): N=32 for cybercafé, 224 for UISC and 59 for other telecenters.

The library user survey also shows that most library users are frequent visitors. About 58 percent of the users said they are more or less daily visitors of libraries. About 33 percent of

users said they visit libraries a few times a month and another 6 percent said they visit libraries once a month.

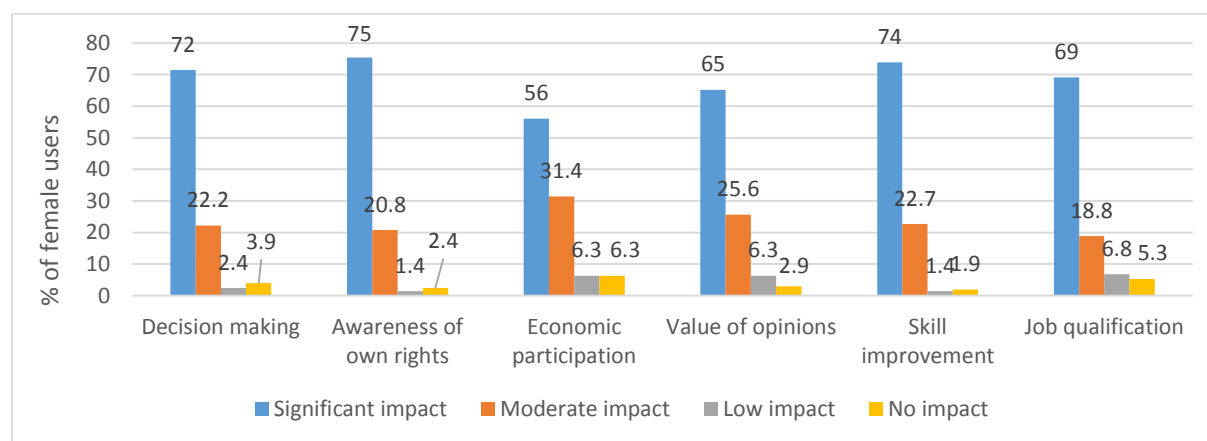
Figure 16: Frequency of visiting libraries



Source: User Survey Data * Note: N=769 for library users.

An overwhelming majority of the users (99 percent) of libraries put high values to libraries in terms of their social impact. Women in general thinks libraries have impacted on their lives positively. About 71 percent women users perceived that libraries play an essential role in enhancing their capacity to make decisions. Most of them also think that libraries play important role in their lives in terms of skill development (74 percent) and finding better jobs (69 percent).

Figure 17: Impact of libraries on women

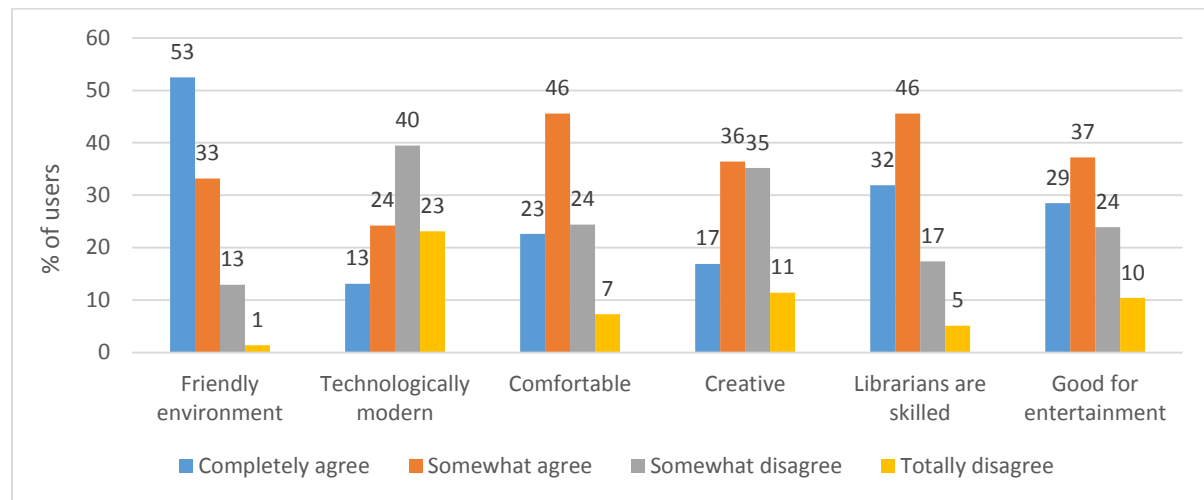


Source: User Survey data * Note: N=207 for female library users.

However, general impressions of the users tend to vary in terms of existing library environment and facilities. For example, 86 percent of users think that libraries of Bangladesh offer friendly environment and 78 percent of them think librarians are skilled to meet user

demands. On the other hand, 37 percent of library users totally agree to the statement that libraries of Bangladesh are technologically modern and 53 percent think libraries are creative enough in terms of the facilities and services offered.

Figure 18: User perceptions about libraries of Bangladesh



Source: User Survey data * Note: N=769 for library users.

3.4 People's information seeking behavior

Demand for information is diversified among people in different occupations. Taking into account this diversity, qualitative data was collected from people in different occupations. A Grounded Theory approach was applied to analyze their daily activities leading to a detailed understanding of their information searching behavior in six common issue areas under which the general information demand was found to be present:

1. **Health** service related information such as finding doctors, hospitals, clinics, diagnostics, etc.
2. **Education** opportunity (such as admission, higher studies, scholarships, etc.), study materials related information such as reports, articles, instructions for homework, assignment or exam
3. **Product price and market** related information
4. **Financial service** related information such as banking, loan, savings, insurance, etc.
5. **Entertainment** related information such as movies, fairs, exhibitions, cultural events, etc.

6. **Employment** related information such as agriculture and farming methods, income tax, land registration, etc.

A summary of these qualitative findings can be found in the Annex, Section 7.2.

Not all information is equally important to all people. The household survey conducted under the current study shows that:

- 94 percent of the respondents think information relating to health services, such as searching for doctors, hospitals, health centers, etc., is extremely important.
- Information related to various government services is highly important to 83 percent of respondents.
- Information regarding educational access, opportunity and facilities is very important to 81 percent of the respondents.
- More than half of the respondents reported that information related to disaster preparedness, financial services (such as banking, loans and insurance), employment and professional skills development and the government's safety net programs is very important.

Figure 19: Importance of information (all household respondents)

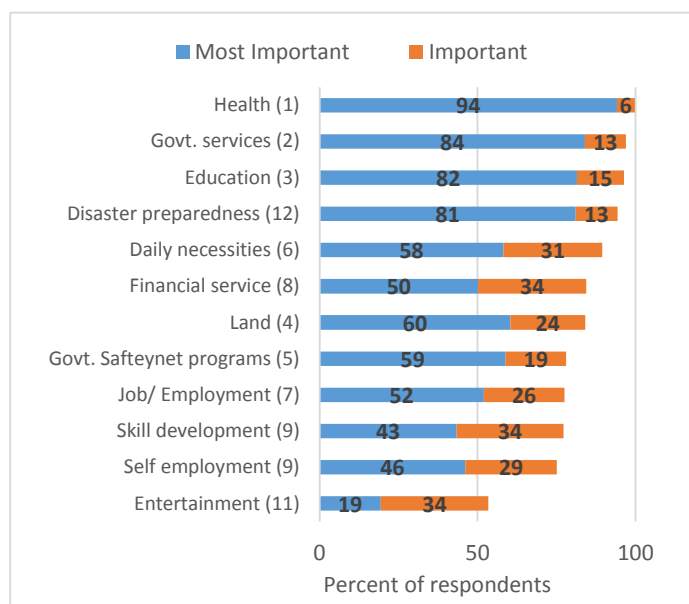
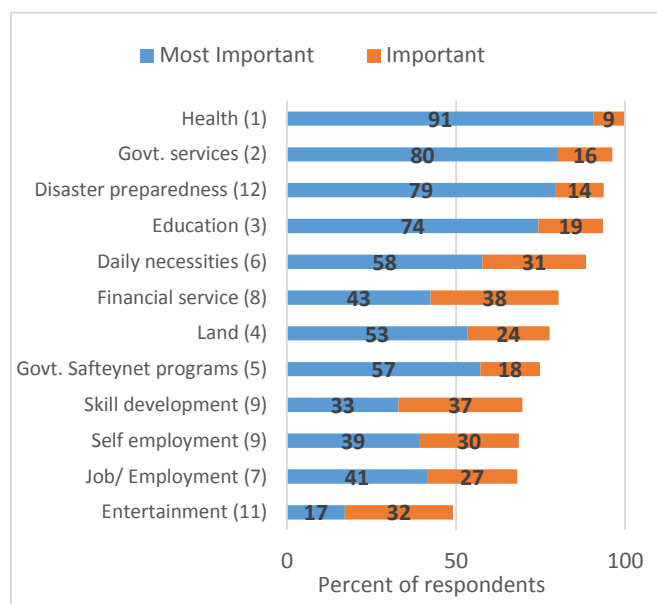


Figure 20: Importance of information (Non-user household respondents who said they do not need library services)



Notes: 1. Searching for doctor, hospital, health center, clinic, etc.; 2. National ID card, passport, birth certificate, etc.; 3. Institutions, higher education opportunities, exam results, etc.; 4. Land registration, survey etc.; 5. Food for Work, VGD, etc.; 6. Price, location of market, etc.; 7. Job circular, application, etc.; 8. Banking, loan, insurance, etc.; 9. Farming, business, etc.; 10. Training and courses.; 11. Film, fair, exhibition, cultural ceremony, events, etc.

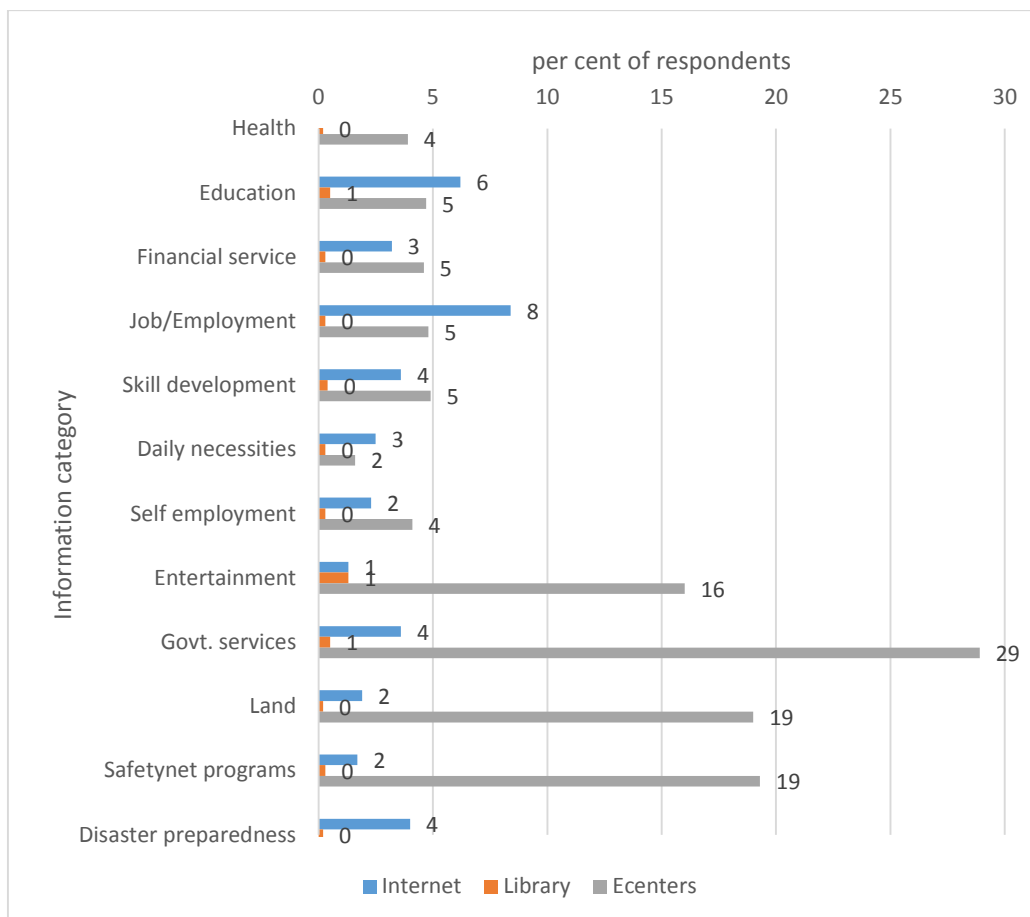
Source: Household Survey Data * Note: N=4585 for all household respondents and N=1,690 for non-user household respondents.

Figure 19 shows that 67 percent of household respondents who do not use libraries or e-centers mentioned they do not need library services as a reason for their non-use of libraries (see section 5.8 for detail), also have similar information need. In fact, the use of libraries as a source of information was found to be extremely low. Figure 21 shows that, in any category of 'information', not more than 1 to 2 percent of people go to a library to obtain that information or any services related to it.

Use of the internet or visiting an e-center to obtain information or services is also not very popular in general. However, a significant portion of the household respondents said that they go to e-centers for getting information on three issues such as government services, government's safety-net programs and land registration. This is because e-centers provide services that are people's demand oriented and, unlike the libraries, e-centers also cater to the service demand of the non-educated groups. Overall, people are more dependent on the

use of traditional sources, such as families and friends, community, relevant institutions, etc. for meeting their information need, rather than on libraries or e-centers.

Figure 21: Sources of information used by people



Source: Household Survey Data * Note: N=4,585 for all household respondents.

In regard to the top three issues on which people sought for information in a library, the household survey data shows that a majority of the respondents (73.5 percent) reported seeking information about education, followed by entertainment (42 percent) and job related information (39.8 percent).

For users at e-centers, the most popular issues on which people seek information are birth certificates (62 percent), printing and related services (40 percent) and examination results (17.6 percent).

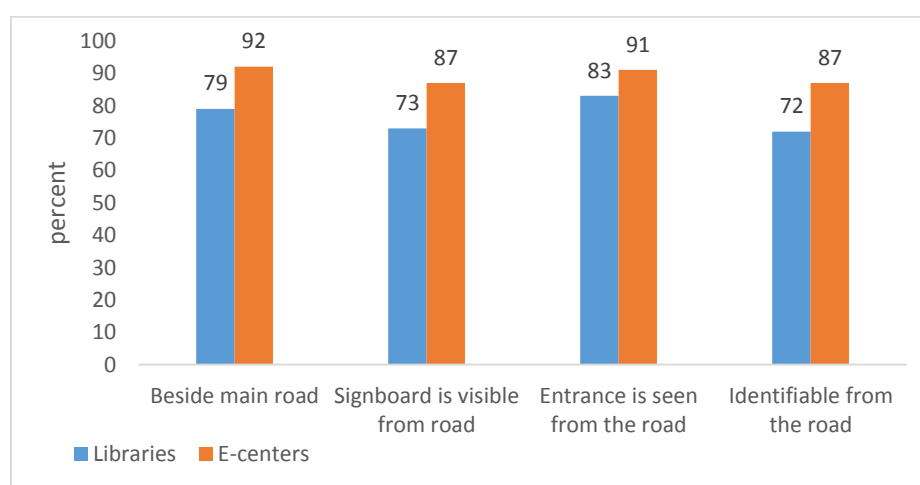
3.5 The Built Infrastructure

3.5.1 Location and visibility

Despite the observed rising trend in library use, some of the libraries, particularly the rural NGO libraries, have a very low user base. This is often linked to inappropriate location of the library. As Katz and Bon (2014) mentioned in their study, a visit to the children's library of Sylhet Shishu Academy branch, located on a major intersection in Sylhet city center, found no users at all. The library was also difficult to locate.

From the household survey, it is revealed that 7 percent of those who use libraries mentioned the location of the library to be an obstacle to their library use, 20 percent mentioned distance to be an obstacle and 7 percent mentioned the cost of travel to library as an obstacle. On the other hand, the user survey reveals that, 7 percent of library users said they are unhappy about the location of the library and 13 percent of library users expressed dissatisfaction about the distance between their home and the library. These small percentages demonstrate that, for the most part, libraries in Bangladesh are suitably located for their user base. However, it may be mentioned here that, Bangladesh being a disaster prone country, libraries need to be suitably located in order to avoid disruption in services during such occasions. About 24 percent of the library users reported that their library use is hindered during disasters such as cyclones or floods.

Figure 22: Visibility of libraries and e-centers



Source: Venue Survey data; * Note: N=136 for libraries.

From the library venue survey, it was found that about 70 percent of libraries are located beside major roads and have an entrance that is visible to people from the street (83 percent of libraries). Signboards are also in use by 73 percent of libraries. However, over 25 percent of the libraries are not identifiable from the adjacent streets. As the following table shows, e-centers, which, in comparison to libraries, are more often linked to commercial services,

appear to follow these visibility criteria more strictly than the libraries. The visibility of the LIS venues was found to be more or less similar across urban, rural and semi-urban locations.

3.5.2 Building and space

Structure

The nature of LIS structures varies depending on a number of factors. Urban libraries typically use concrete structures, whereas rural ones use mixed materials, often with concrete walls but also with roofs made of either corrugated iron sheets or from other materials (leaves, straw, etc.).

Figure 23: Libraries with different types of building materials



Building structures also vary with their categories. For example, the government public libraries, located in urban centers, are mostly large buildings, often multi-storied. On the other hand, NGO libraries mostly have one or two rooms. Most e-centers are housed in one-room premises. UICs are typically housed within a room in the Union Parishad complexes of the local government. Telecenters are usually isolated, one-room structures.

Layout

In small towns and semi urban areas, private initiatives of community libraries are usually housed within a school or college building or in a rented old building of the locality. The government institutions usually have an additional *rentable auditorium facility* where social and cultural events are performed, but the premises, in every other aspect, projects the image of a *formal and solemn place for scholars only* rather than a learning and sharing premise for ordinary people.

Unlike privately-owned urban public libraries, budget constraints mean that modern technological means of storage, environmental protection and automated security for books

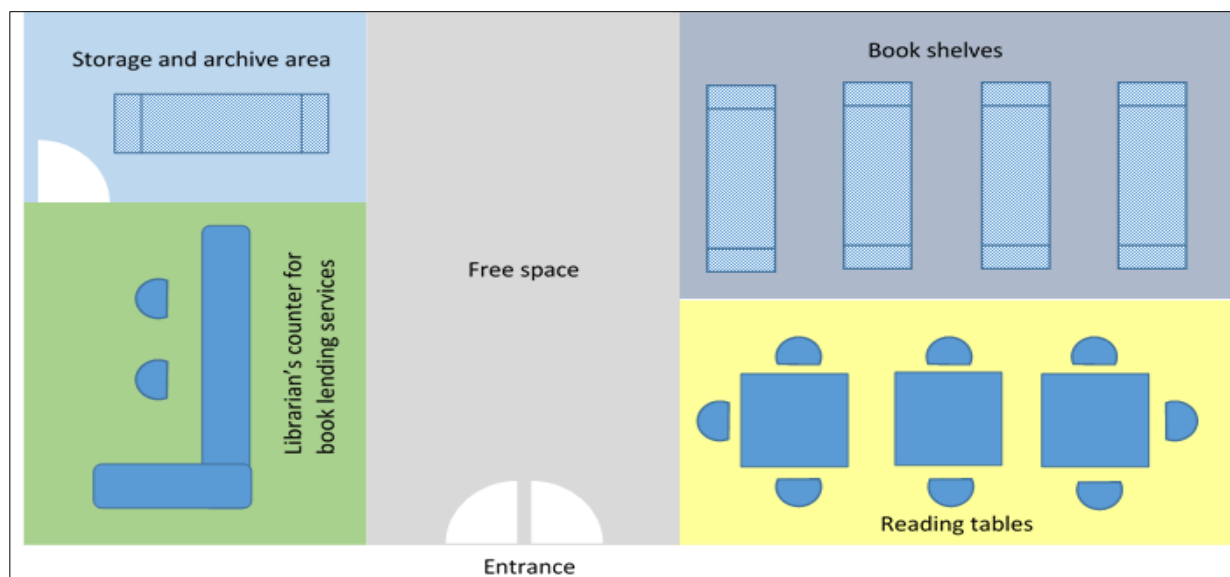
and printed materials are usually absent in government public libraries. The combined importance of air, light and interior design is not recognized, which minimizes the scope for architects and other building and design professionals to create visually pleasing and socially inviting public library buildings.

Figure 24: Divisional and District branch libraries in Chittagong, Manikganj, Narshingdi, and Rajshahi (From left to right)



Public libraries in Bangladesh are usually iconic buildings in a city or a district headquarters where people expect to find “books” or *printed materials mainly for borrowing purposes* along with a considerable amount of *reading space*. So, they are essentially large rectangular rooms with windows that are filled with bookshelves and regimentally arranged with reading tables and chairs. In order to comply with the government’s policies and initiatives to realize the target of a “Digital Bangladesh”, a *complimentary space for computers* providing internet access has now been added to government libraries.

Figure 25: Basic components of homogeneous spaces found in traditional libraries in Bangladesh



Thus, the traditional library spaces in Bangladesh can be categorized into three basic components based on their utility: book storage space, book reading space and book lending space (Figure 25). However, in particular service centers or libraries there are also dedicated spaces for computers and for meetings or holding events.

Types of room

Facilitating multipurpose use of a modern library requires, in addition to reading rooms, spaces for community gatherings and socialization, spaces appropriate for the use of ICTs and digital contents, etc. From the library and e-center survey it appears that majority of the libraries in Bangladesh have readiness for multipurpose use in this respect. About half the libraries (48 percent) have dedicated reading rooms and 63 percent have a separate space for computer use. About one-third of libraries have separate meeting rooms as well as hall rooms where social or educational activities can take place. But for e-centers, these facilities are absent as they are mostly housed in a single roomed space.

Table 4: Room types in libraries

Type of spaces	Yes (%)	No (%)
Separate study room	48	52
Place for using computer	63	38
Separate meeting room	29	71
Hall room facility	30	70

Source: Venue Survey data; * Note: N=136 for libraries.

However, the availability of different types of spaces in libraries varies across geographic locations. Apart from separate computer rooms, more urban libraries were found to have other types of separate spaces than rural ones. For example, while overall 48 percent of libraries have separate study rooms, only 36 percent of rural libraries have them compared to 72 percent of urban libraries.

Table 5: Types of spaces by geographic location of libraries

	% of rural libraries	% of semi-urban libraries	% of urban libraries
Separate study room	36	29	72
Separate meeting room	17	43	45
Hall room facility	25	36	36
Place for using computer	64	50	64

Source: Venue Survey data; * Note: N=75 for rural libraries, N=14 for semi-urban libraries, and N=47 for urban libraries.

3.5.3 Seating arrangements

Sufficient seating, matched to the number, flow and behavior of visitors to the library, is one of the basic infrastructure requirements of an LIS venue. The average number of library users

in a normal day was found to be 120. From the survey of libraries and e-centers, the average accommodation facility (simultaneous seating) was found to be 57 for libraries. As for e-centers, these numbers are 45 and 11 respectively.

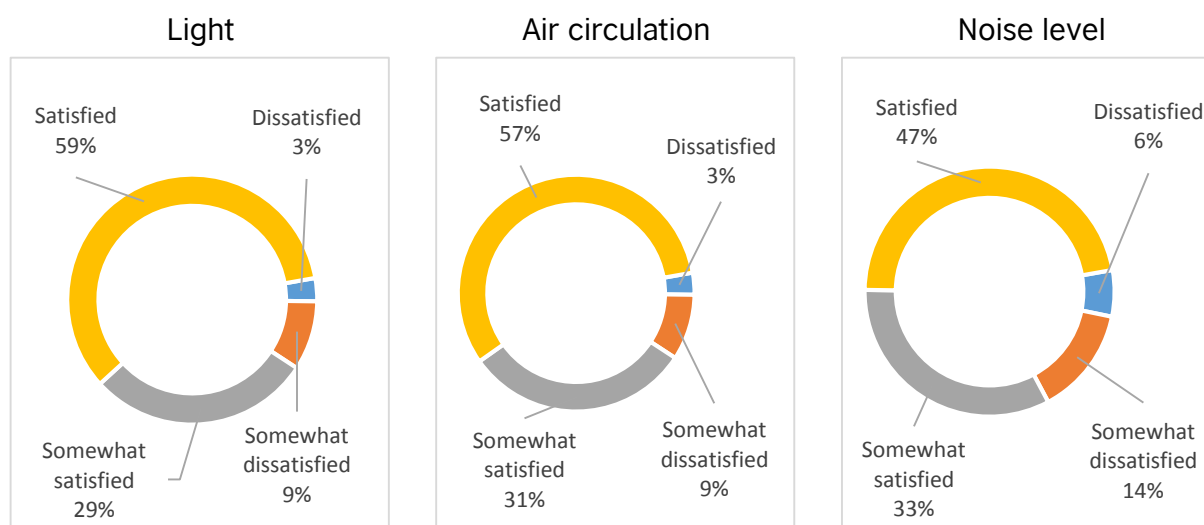
The numbers of visitors varies across geographic locations. The average number of simultaneous seating arrangement also varies according to geographic location (92 urban, 37 rural and 47 semi-urban).

As was noted earlier, the trend in library and e-center use is upward. However, there has not been any visible recent improvement in seating capacity. This has resulted in some dissatisfaction among the users of both libraries and e-centers. About 27 percent of library users responding to the user survey expressed medium to serious dissatisfaction in this regard.

3.5.4 Convenience

In general, given the resource constraints, air conditioning in libraries would be too much expensive a venture for the library authorities. About 60 percent of respondents to the library user survey think that libraries have adequate lighting and ventilation facilities, while about one-third of them are satisfied only to some extent, reflecting the scope for improvement. About one-fifth of the users find the noise level in libraries to be problematic.

Figure 26: User satisfaction in terms of library lighting, ventilation and noise level



Source: User Survey data; * Note: N=769 for library users.



Figure 27: Seating arrangements

The library survey found that toilets exist in 56 percent of libraries in Bangladesh. However, 41 percent of the toilets are found in unusable conditions. At the same time, of those libraries having toilets, only 37 percent have separate toilets for female users.

Thirty seven percent of the library users reported that either there is no food service available in the library or they are unaware of such facilities.

Improving on these facilities will require alteration, and, in some cases, better management of the available infrastructure.

3.6 Library resources

3.6.1 Reading materials

Print materials generally dominate in the libraries of Bangladesh. Considering government public libraries only, on average a library has 31,516 books and subscribes to 10 newspapers (9 Bangla and 1 English) and 13 periodicals (12 Bangla and 1 English).

Table 6: Average number of reading materials available at government public libraries

Type of reading materials	Average availability
No. of Books	31,516
No. of Bangla Newspapers	9
No. of English Newspapers	1
No. of Bangla Periodicals	12
No. of English Periodicals	1

Source: Public Library Portal, GoB, 2015.

Sources of books

The library survey data shows that in private or community libraries, books are primarily purchased through a library fund (for 52 percent of their purchases). Unsurprisingly, 97

percent of new purchases in government libraries depend on the government budget, and NGO libraries depend on their respective NGOs to provide 80 percent of their new purchases as the library funds are inadequate.

The government also supports private/community libraries by providing books: about 62 percent of the private/community libraries mentioned the government as their source for books. Private institutions or associations also play a significant role in providing books to their local libraries; 15 percent of government libraries, 38 percent of private/community libraries and 22 percent of NGO libraries receive books from such donations.

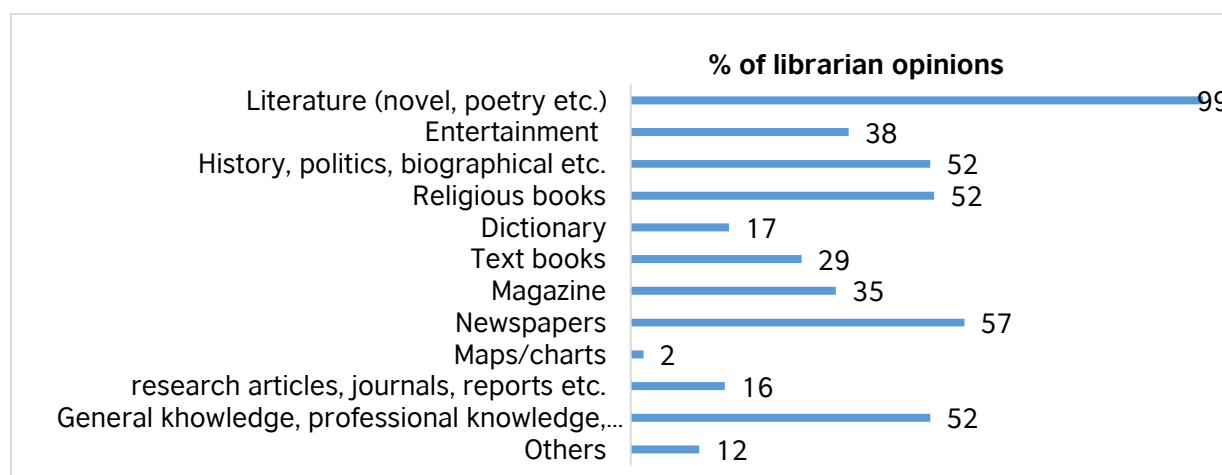
Table 7: Sources of books for different types of libraries

Sources of books	Government public libraries (%)	Private libraries (%)	NGO libraries (%)
Purchase through government fund	97	62	2
Private institutions/associations	15	38	22
NGO	6	19	80
Library fund	6	52	6
Community	3	14	2
Political parties	0	0	2
Foreign donors	6	5	1
Others	15	14	14

Source: Venue Survey data; * Note: N=34 for public library, 21 for non-government/private library and 81 for NGO library.

According to librarians, the highest user demand is for literature (novels, poetry, etc.), followed by newspapers, religious books, historical or politics related books and general knowledge or technical/professional books.

Figure 28: Librarian opinions on the most demanded reading materials



Source: Venue Survey data; * Note: N=136 for libraries.

However, 52 percent of librarians (in all libraries) felt that, given the demand by users, reading materials in libraries are insufficient. Likewise, a significant proportion of users expressed their dissatisfaction to varying degrees regarding the availability of reading materials in libraries.

Figure 29: User satisfaction on availability of reading materials in libraries



Source: User Survey data; * Note: N=769 for library users.

It is worth noting that apart from a very few libraries, digital content is yet to be popularized in the Bangladesh library system. However, there seems to be a growing demand for such content as 78 percent of users (from the library user survey) expressed their dissatisfaction regarding the availability of such content in libraries.

Case study 1: A government public library of Bangladesh

The Divisional Public Library of Sylhet, with 62,544 books and many newspapers, periodicals, journals and magazines, provides multiple services to its user base. This includes reader services, reference services, international affairs and news services, photocopying, printing, scanning, projector and internet facilities, book lending, and seminar arrangement services.

Different events are regularly held in the library including essay writing, handwriting and reading competitions, documentary screenings and poem recitation competitions to increase the reading habit and engage the general public with the library. It is seen that 5,387, 4,930 and 1547 books were in circulation in book lending services 2012, 2013 and 2014 respectively.

The building structure and design successfully caters to a range of services for children with child friendly furnishing and resources. The library also has prayer rooms and separate reading rooms for group and silent reading. Considering the local context and in order to increase female library users, the library have appointed a female librarian



along with other 16 librarians catering to their huge user base. There is a dedicated corner on the third floor where books published by local writers are kept for exhibition. This way the library is promoting local writing talent along with developing the reading habit among the local people.

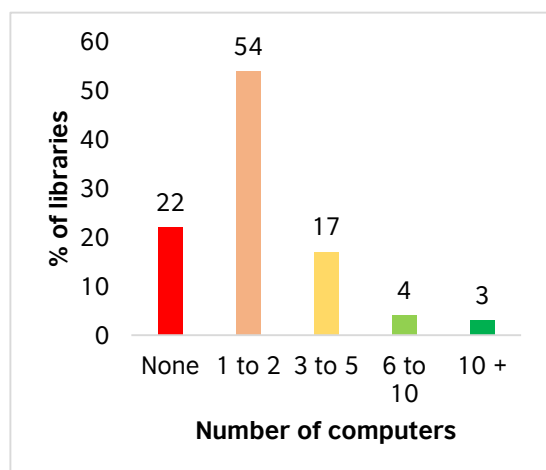
Update of reading materials

One important aspect of reading materials in the library is the frequency and adequacy of updating. According to librarians, based on the figures for 2012-2014, on average, a library collects 1,585 books a year. In doing so, a primary consideration is user demand. Libraries also consider new publications and new areas of knowledge when updating reading materials. It is to be noted that the amount of books acquired in a year significantly varies between libraries. While the highest number of books acquired in a year by a library was found to be 38,758, there were also libraries that did not collect any book in a particular year.

3.6.2 Availability of computer and internet

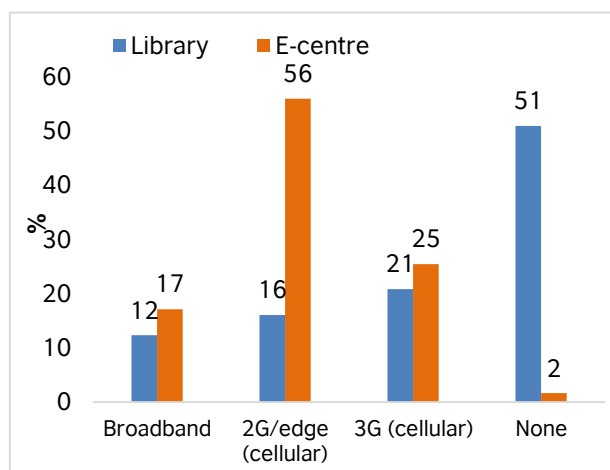
Though 78 percent of all libraries have computers, about 54 percent of the libraries have only 1 to 2 computers. Moreover, 56 percent of libraries do not have any computers for public use; they are available for use by library staff only.

Figure 30: Availability of computers in libraries



Source: Venue Survey data; * Note: N=136 for libraries

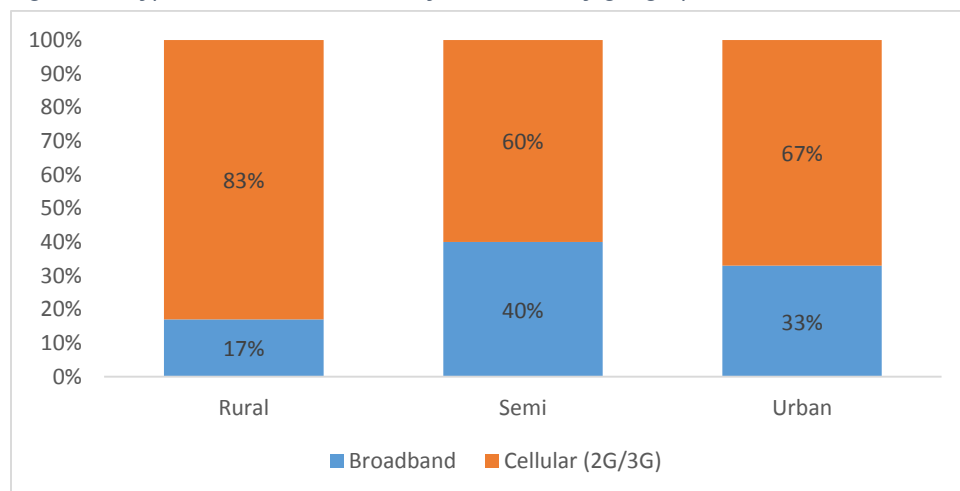
Figure 31: Type of Internet connectivity of libraries and e-centers



Source: Venue Survey data; * Note: N=136 for libraries and N=315 for e-center

About 51 percent of libraries and 98 percent of e-centers have internet connections, which only 12 percent of libraries and 17 percent of e-centers have broadband connectivity. Both for libraries and e-centers, mobile internet dominates the types of net-connectivity. Unavailability of broadband internet and the penetration of mobile internet throughout the country are reflected in the type of internet available in the libraries of different geographic locations. Of those with internet connections, about 83 percent of rural libraries have internet through cellular networks compared to 60 percent of semi-urban libraries and 67 percent of urban libraries.

Figure 32: Type of internet connectivity of libraries by geographic location

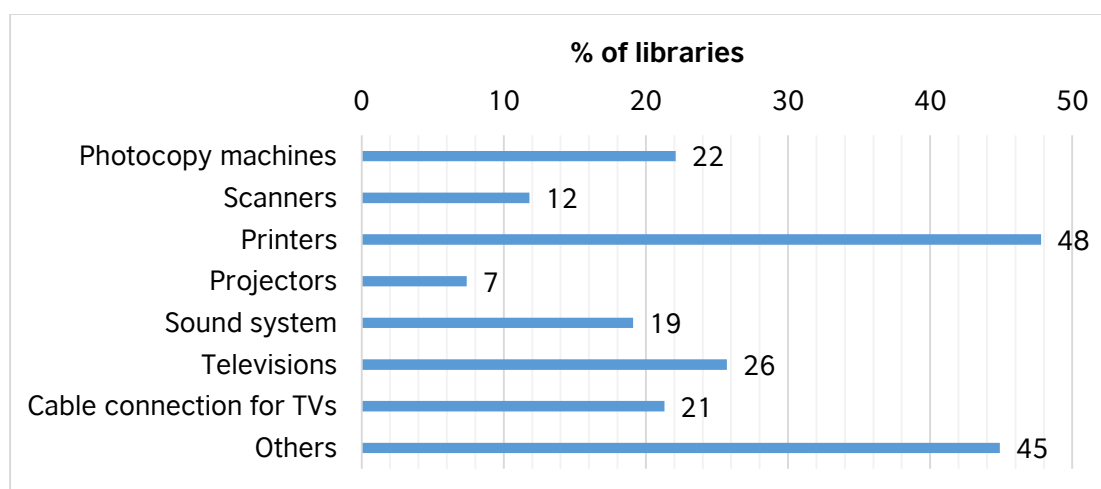


Source: Venue Survey data; * Note: N=29 for rural libraries, N=5 for semi-urban libraries and N=18 for urban libraries.

3.6.3 Logistics

Apart from reading materials, libraries need supporting equipment for knowledge transfer, public events and entertainment purposes. Nearly a quarter of libraries have photocopiers (only 22 percent) and about 48 percent of libraries have printers.

Figure 33: Availability of supporting equipment in libraries



Source: Venue Survey data; * Note: N=136 for libraries.

Despite the low level of availability of supporting equipment in libraries, user satisfaction in the survey data is on the high side. This may be associated with the usage pattern of library services by the users. As the reading of books and newspapers tends to dominate the current use of libraries against low usage in terms of public gatherings or individual entertainment, the demand for equipment is low.

Table 8: User satisfaction on the availability of equipment in libraries (%)

Equipment	Totally satisfied	Somewhat satisfied	Somewhat dissatisfied	Totally dissatisfied	Don't know
Photocopier	79	15	3	2	1
Scanners	65	25	5	4	2
Printers	69	22	5	3	1
Projectors	55	25	9	9	4
Sound system	38	26	12	18	7
Televisions	33	21	12	25	10
Cable connection for TVs	30	22	13	24	11

Source: User Survey data; * Note: N=769 for library users.

3.6.4 Power supply

Given the importance of ICT services of the libraries in the modern era and the nature of e-center services, the uninterrupted supply of power for the LIS venues has become a fundamental infrastructural requirement. Library and e-center survey data shows that while

almost all the venues have electricity connections, 3 percent of the libraries and 2 percent of the e-centers do not have electricity supply at all. About 2 percent of libraries and 8 percent of e-centers use solar power as their main source of electricity.

Figure 34: Main power source of libraries

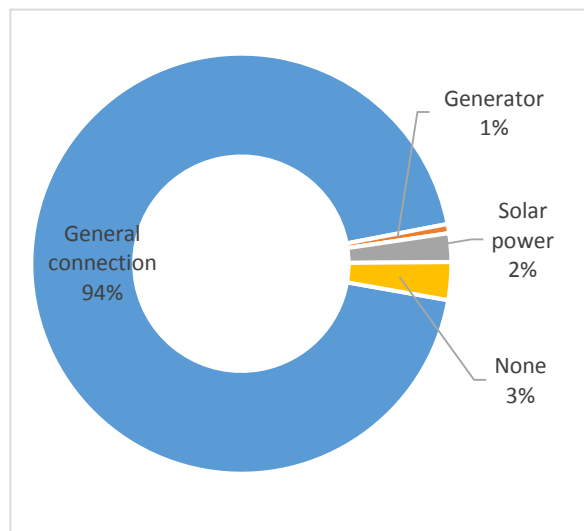
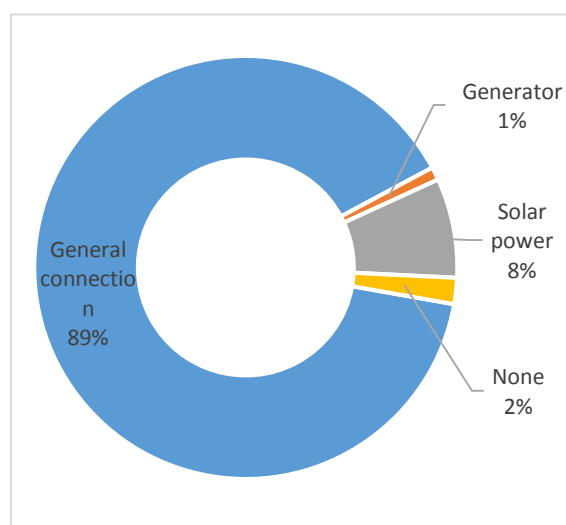


Figure 35: Main power source of e-centers



Source: Venue Survey data; * Note: N=136 for libraries and N=315 for e-centers.

Notwithstanding the recent improvements in power situation of the country, “load shedding” or power outages is common in Bangladesh, particularly in the rural areas. In order to cope with such situations, it is common practice for both commercial units and households to have backup power supplies, either through generator connections or through IPS. LIS venues, to an extent, have adopted such backup technologies as well, particularly the e-centers for which power supply is vital for almost all services. While only 25 percent of libraries have backup power supplies, 74 percent of e-centers have them. More impressively, 38 percent of the e-centers use solar power backup, as against only 4 percent of libraries.

Figure 36: Power backup of libraries

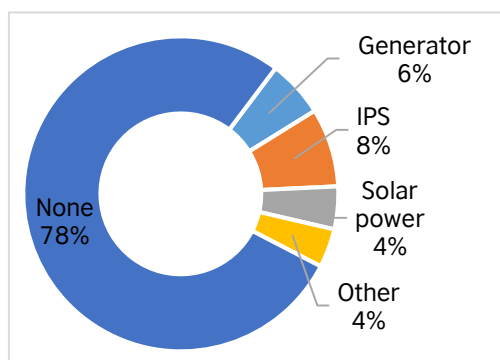
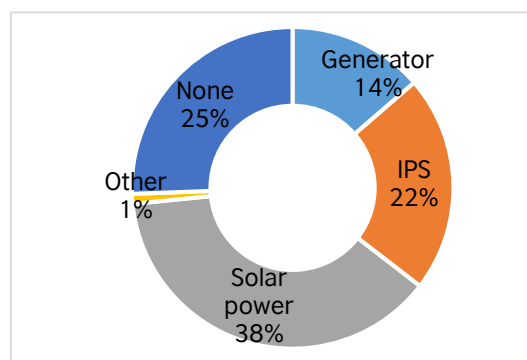


Figure 37: Power backup of e-centers



Source: Venue Survey data; * Note: N=136 for libraries and N=315 for e-centers.

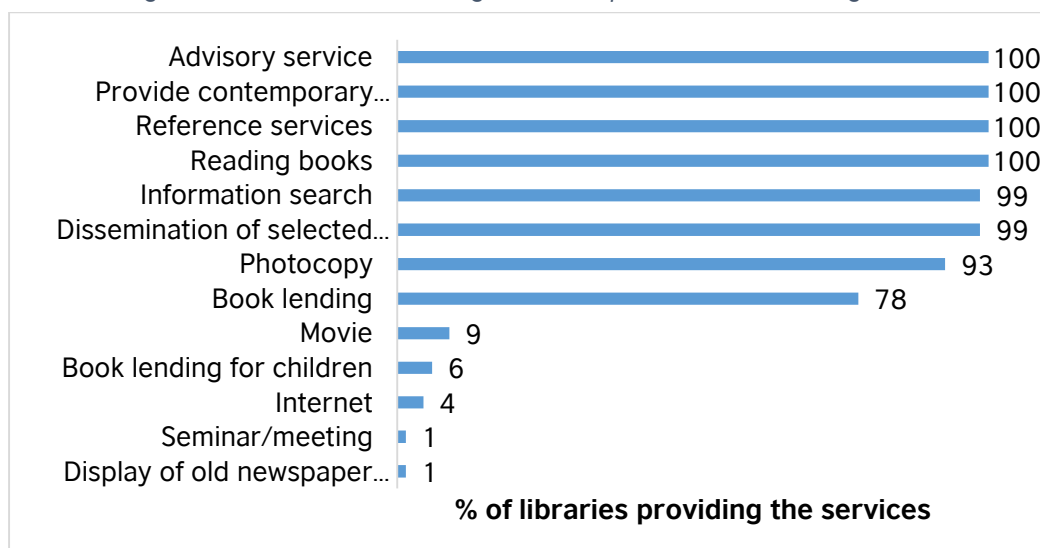
It may be noted that a lower proportion of rural libraries (15 percent) have power backups as against urban libraries (23 percent). On the other hand, 57 percent of semi-urban libraries maintain them.

3.7 Information services

Libraries, no matter what their origin, purpose and target user group, have some common services. The public libraries of Bangladesh also have these services, such as providing reading materials (books, newspapers and magazines), archiving of reading resources, providing reference services, etc.

Figure 38 shows a list of services provided by the government public libraries of Bangladesh.

Figure 38: Services available in government public libraries of Bangladesh



Source: Public Library Portal, GoB¹⁰

It can be seen from the field research that the “traditional” library services of book lending and reading predominate in all libraries in Bangladesh. However, globally, the usage of libraries has diversified over time. On top of providing knowledge and information services, meeting the cultural needs of the community has become a major service that modern libraries are increasingly providing.

Box 4: Common Services of public libraries around the world

Public libraries all over the world are transforming themselves and becoming more multifunctional, which means they are changing the content of their services.

¹⁰ <http://www.publiclibrary.gov.bd> (accessed on 29 March, 2015).

Common services in public libraries

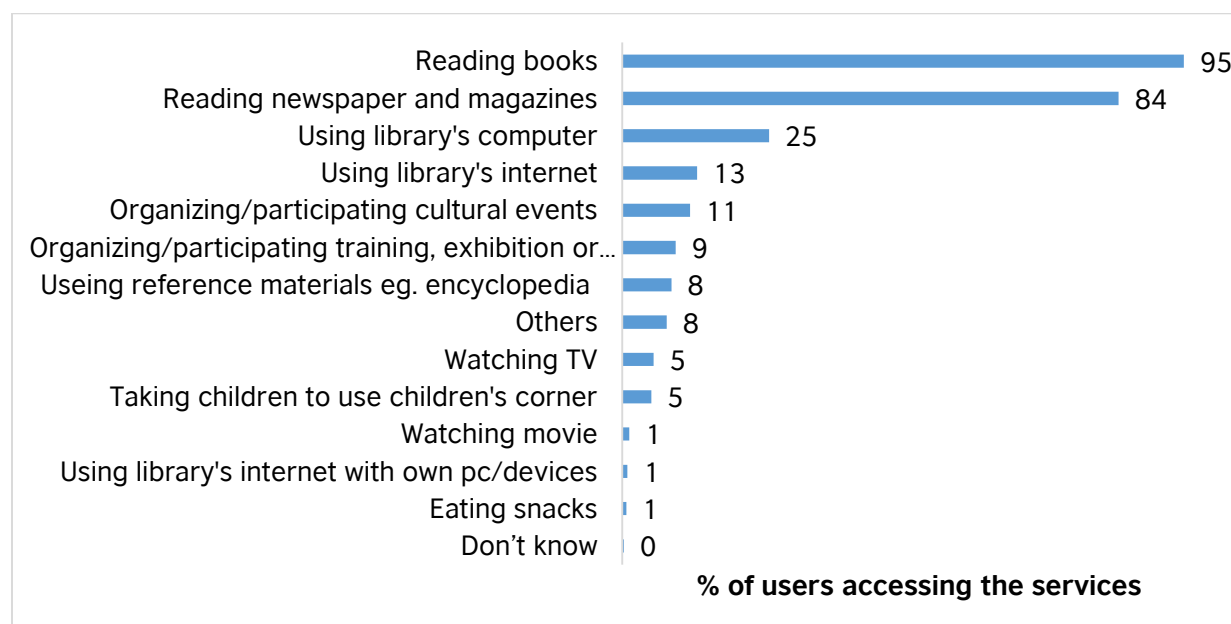
- Book lending (Zickuhr, Rainie, and Purcell, 2013)
- Newspapers and journals available for reading
- Online class or online certification program
- Training on multiple areas
- Formal learning supports
 - Abstracting and indexing
 - Bibliographic services
 - Inter-library loan
 - Reprographic services
 - Photocopy service
 - Help desk (Islam, 2011)
- Reference librarians
- Free literacy programs
- Business and career information services
- Community referral services
- Consumer information
- Cultural awareness
- Reading rooms, meeting rooms, and cultural events
- Voter registration centers
- Safe homes for immigrants
- Meeting place for diverse people (Siddike, Kalam, Umemoto and Kohda, 2014)

Common ICT-based services in public libraries

- Free access to computers and the internet
- Access to other online library websites
- Online full text database service
- CD-ROM searches
- Intranet (data sharing, file transfer)
- Access to commercial e-resources
- Electronic document delivery
 - Abstracting and indexing
 - Bibliographic services
 - Printing facilities

The library survey data shows that only 9 percent of government libraries hold movie shows and merely 1 percent use their space for organizing seminars or meetings. ICT facilities are at the core of a modern library. Only 4 percent of these government libraries are reported to have internet services available for the public.

Figure 39: Services accessed by library users

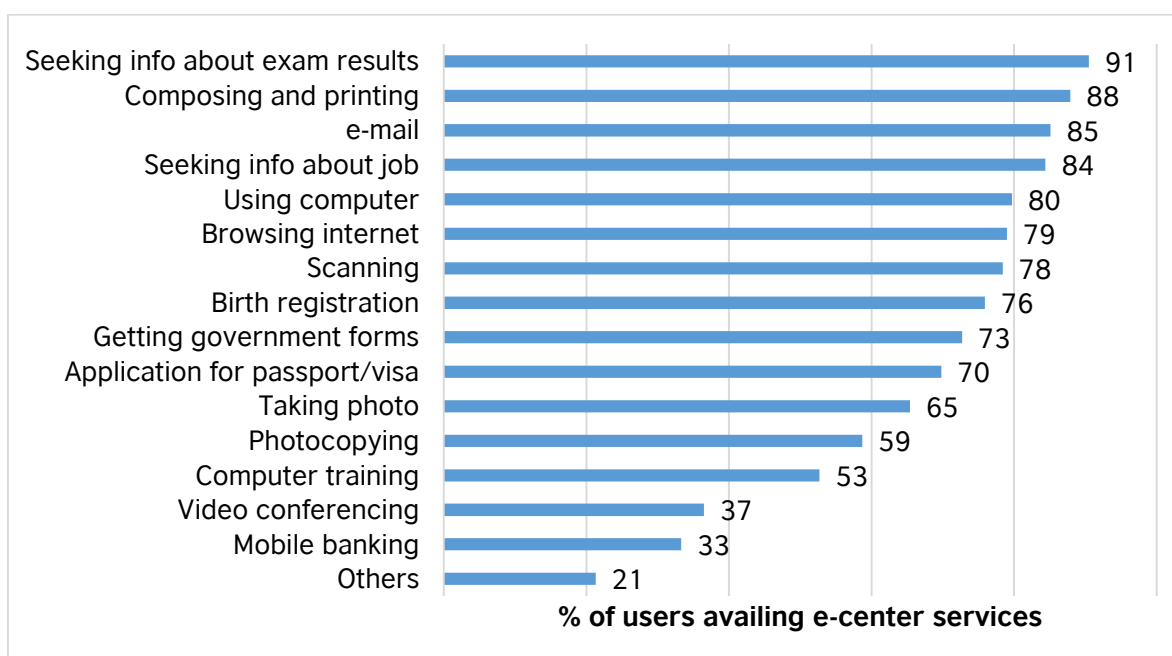


Source: User Survey data; * Note: N=769 for library users.

Current provision of such cultural or modern information services does not match the demand. The library user survey data shows that about 25 percent and 13 percent of library users (regardless of type of library they visit) come to the library to use computer and internet services. Meanwhile, on average, 10 percent of library users visit a library to participate in cultural functions, attend exhibitions or participate in competitions and training.

For information and ICT related services, people are more inclined to visit e-centers such as telecenters, UISCs or cybercafés. Most of their users come for services such as searching for exam results, services related to word processing and printing, searching for job or employment related information, communication through e-mail and using computer and the internet. Figure 40 presents the services accessed by the e-center users.

Figure 40: Types of services availed by e-center users



Source: User Survey data; * Note: N=1280 for e-center users.

Case study 2: British Council Library - a modern multipurpose library

The libraries of the British Council serve as the main platform for the organization's work in English language teaching, education and society, and the arts. The British Council has recently reopened its Dhaka library as a new multipurpose center after a period of renovation. It has resources of approximately 17,000 physical books and 3,000 CDs, DVDs and journals, along with e-resources of 85,000 e-books and 14,000 e-journals.

The multipurpose concept offers regular library services along with automated book lending facilities, silent and group reading areas, computer and internet usage facilities, a piano which members can use for their entertainment, children specific services and resources, multipurpose rooms for events and workshops, English language classes, book reading competitions, a young learners club, a library cafeteria and a prayer room.



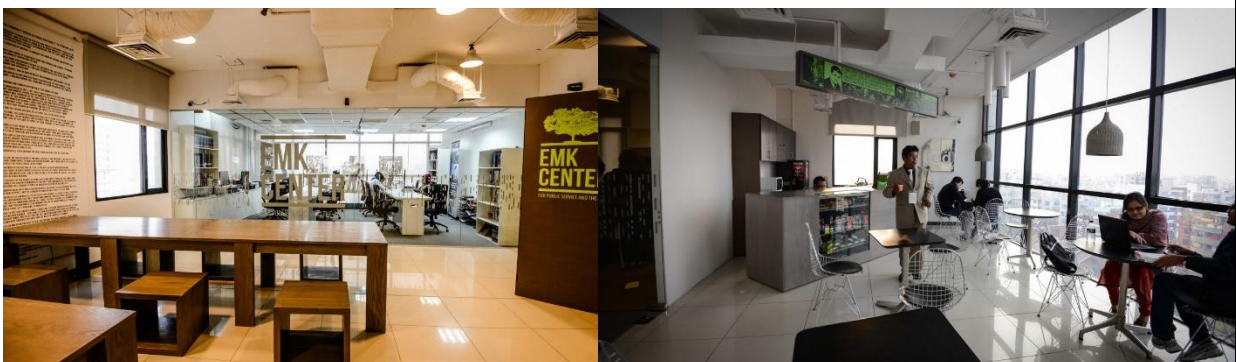
The children's corner within the library is a child-friendly furnished space with a clear view to the entrance, enabling parents to observe their children's activities while they can pursue their times in their own activity. Along with the children's zone, the library interior design has considered light, comfort, safety and colors and together creates a positive environment for all of the library's activities.

The reception and customer service counters are placed centrally and the service providers are specially trained to deal with users in a very polite and friendly way, especially with children. The book shelves of the library are movable which gives the opportunity for the librarians to use the space in a variety of ways.

Library Automation is a significant feature of the British Council Library that allows the users with self-service facility. Each book has radio frequency identification (RFID) tag/sticker that has to be identified at time of borrowing a book from the library. As a whole, the British Council library is an ideal example of a modern ICT enabled multipurpose library that is worth replicating by both government and non-government organizations throughout the country for promoting the ideal learning environment.

Case study 3: EMK Center - beyond books

The Edward M. Kennedy EMK Center was established in 2012 through a partnership between the Liberation War Museum and the American Center of U.S. Embassy in Dhaka. The EMK Center was established on the basis of promoting a non-partisan platform for people committed to open dialogue, informed action, individual and artistic expression,



and personal and professional development. Its services range from some limited traditional library services to access to an online-library of global depositories. There is also a discussion space that is open for all, a library cafeteria, an exhibition zone, a silent

room for study. Besides, it offers services like student counseling for study abroad, training on education related topics, and regularly hosting cultural events. The interior design of the space embodies the modern concept of a multipurpose library and learning center.

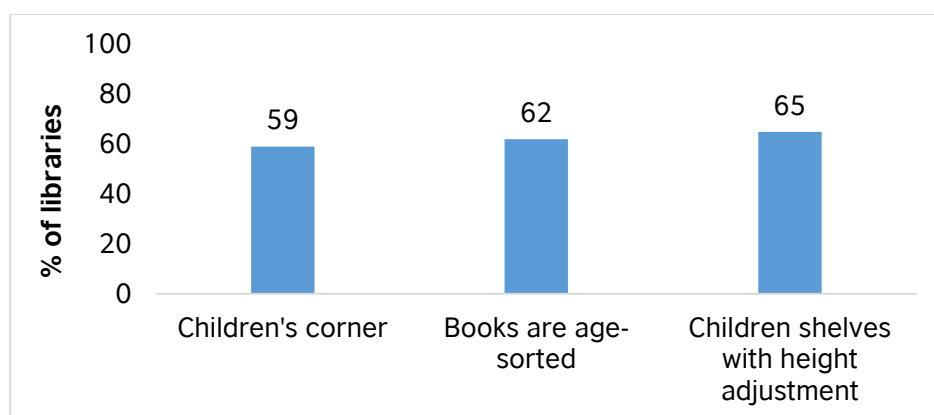
3.7.1 Inclusiveness in services and resources

3.7.1.1 Child friendliness

As children are an important user base and target group for libraries, and special attention is required to ensure a child-friendly environment. About 59 percent of libraries surveyed have separate spaces for children. In a majority of the libraries, book shelves for children are present, the height of which is kept within their reach (65 percent). Also, 62 percent of libraries maintain age-grouped arrangement of books.

The provision of children's corner was found to have varied across geographic locations. About 66 percent of urban libraries have a children's corner, whereas 57 percent of rural libraries and 43 percent of semi-urban libraries have such provisions.

Figure 41: Infrastructure for Children



Source: Venue Survey data; * Note: N=136 for libraries.

The International Federation of Library Associations and Institutions IFLA *Guidelines for Children's Libraries Services* suggests that among other facilities for children in a library, there should be storytelling facilities. According to the librarians surveyed under the current study, in about 21 percent of libraries of Bangladesh there are volunteers for storytelling to the children.

Services for children in public libraries

- Parent-child story hours
- Trained librarians and resources for fingerplays, rhymes, and songs
- Training programs for childcare workers
- Recordings of children's stories and songs
- Helping children with school assignments, such as **homework hotlines** and **term paper "clinics"**
- Organizing puppet and crafts shows
- **YOUmedia** - libraries offering spaces for kids to explore, express, and create using digital media
- A safe space within the library premises
- Child friendly furnishing and interior allowing children's easy access to resources

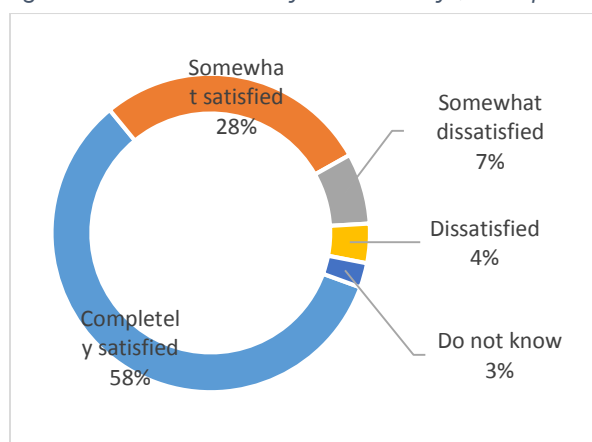
Services for teenagers in public libraries

- Teenage advisory boards to ensure that programs and materials for youth actually meet their needs
- Enlisting teenagers to assist in children's programs in the library

Child Safety

When asked for library user's opinion regarding children's safety in libraries, over 86 percent of users opined that they are satisfied with children's safety concerns inside the libraries. About 11 percent of the users, however, mentioned that they are not entirely satisfied with children's safety concerns inside the library.

Figure 42: Children's safety inside library (user opinion)

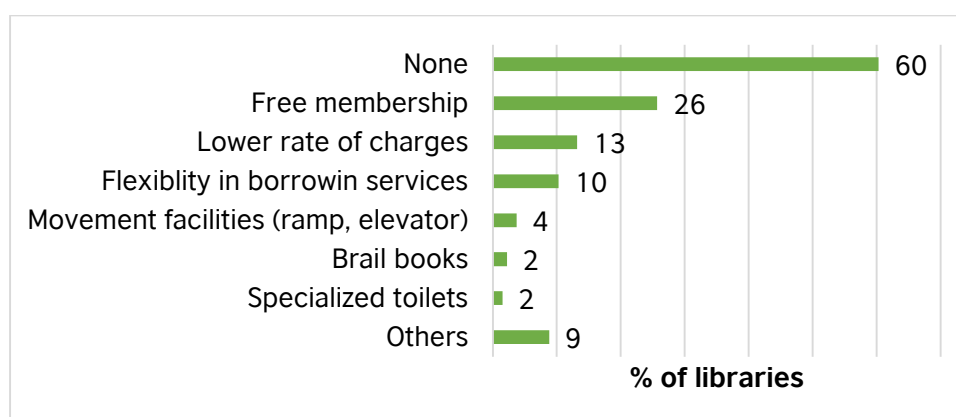


Source: User Survey data; * Note: N=769 for library users.

3.7.1.2 Infrastructure and resources for people with special needs

Public libraries are by definition provisioned for serving all the segments of a community. Hence, not only infrastructural design should be for people with special needs or disabilities, library services should also be inclusive. Unfortunately, as the library survey data shows, about 60 percent of the libraries surveyed do not seek to provide facilities for a specific section of the community in the interest of greater inclusivity. Those who do provide suitable reading materials such as braille books (2 percent of libraries), ramps or elevators for easy movement (4 percent of libraries) and specialized toilets (2 percent of libraries) are very limited. Some libraries have waived membership fees (20 percent) and some have borrowing flexibilities (10 percent) for groups of users with special needs (Figure 29).

Figure 43: Facilities for people with special needs

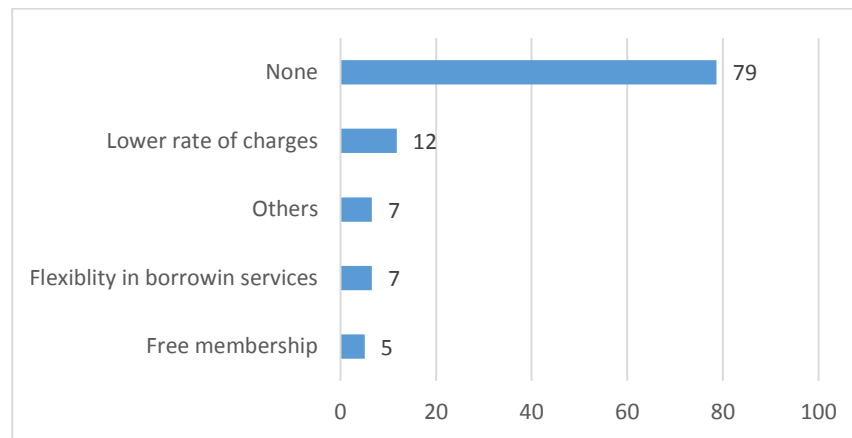


Source: Venue Survey data; * Note: N=136 for libraries.

3.7.1.3 Facilities for women

The provision of facilities for women is an indicator of a concern for gender equity and of the inclusiveness of a public library service. However, approximately 80 percent of the libraries that took part in the survey do not have any special facilities for women. The rest, who reported to have some facilities for women such as free membership or reduced rate of charges and flexibility in borrowing services (Figure 44).

Figure 44: Special facilities for female users



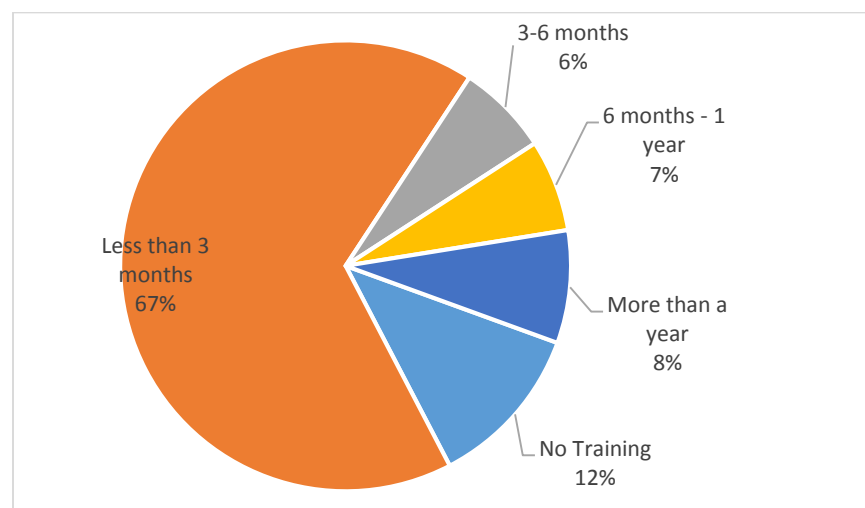
Source: Venue Survey data; * Note: N=136 for libraries.

3.8 Library operation and management

3.8.1 Library staff

It was found from the library survey that 88 percent of librarians have training of varied duration and types. However, most of the librarians (67 percent) have training of less than 3 months. Only about 12 percent of librarians have no training of any kind.

Figure 45: Training of librarians (duration)



Source: Venue Survey data; * Note: N=136 for libraries.

The availability of trained librarians varies between urban (94 percent), semi-urban (100 percent) and rural libraries (83 percent).

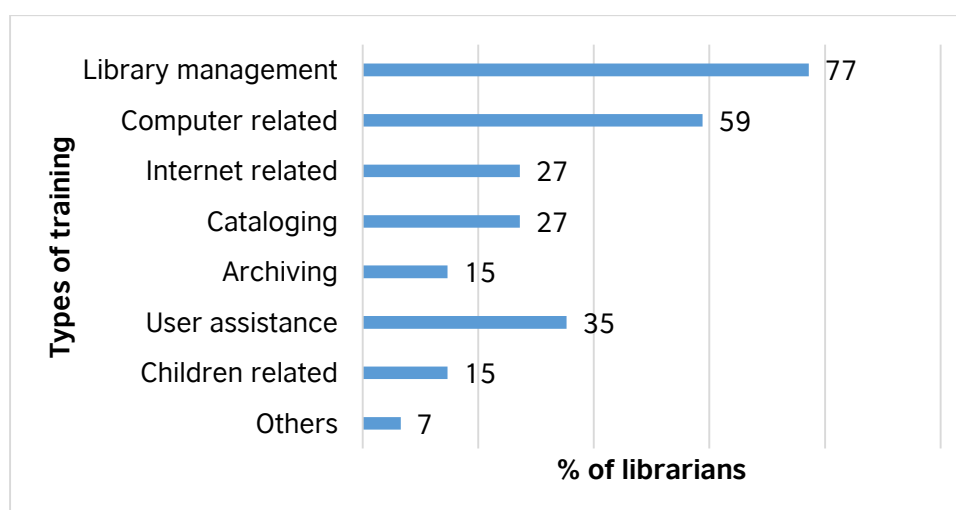
Table 9: Training of librarians by geographic location of libraries

	No Training	Less than 3 months	3-6 months	6-12 months	More than a year
Rural	17	68	5	4	5
Semi-urban	0	57	7	21	14
Urban	6	68	9	6	11

Source: Venue Survey data; * Note: N=75 for rural libraries, N=14 for semi-urban libraries, and N=47 for urban libraries.

Most of the librarians are trained with basic library management (77 percent of librarians) and 27 percent have received training on cataloging as well. About 59 percent of librarians are trained on computer usage and 27 percent have training on internet usage. About 35 percent of librarians are also trained with user assistance.

Figure 46: Types of training (librarians)



Source: Venue Survey data; * Note: N=120 for libraries (librarians with training).

Box 6: Training opportunities for the library professionals

There are no significant institutionalized training programs for library professionals in Bangladesh; neither foundation/pre-job training nor in-service training. However, occasionally the government nominates some selected government library professionals for training on the basis of specific criteria such as skill, experience and the need of a particular library. In most cases, these training programs are conducted for 5-10 days, with some exceptions where 1-2 months training is provided. Topics for the government training programs include library administration, catalogue management, library user services, archiving, computer operation, children user services, and gender awareness.

There are, however, some individualized training initiatives. For example, the Department of Public Libraries carries out two training programs with very limited participation. The department keeps an allocation of TK. 800,000 (about US\$1,500) in its recurring budget for this purpose.

Table 10: Training programs of the Department of Public Libraries

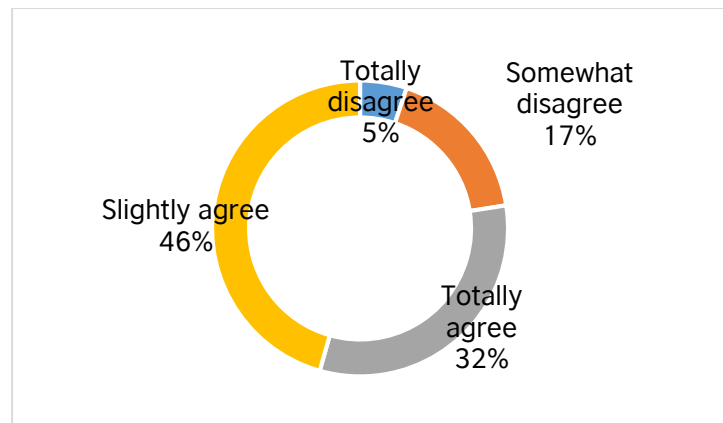
Name of training program	Duration	No. of participants (2013)
Application of ICT in Public Libraries	5 days	20
Library Administration and Readers' Service Activities	7 days	70

The National Book Center also organizes a 10 day training on the management of non-government libraries, readers' service and application of ICTs. From different locations, 55 library professionals took part in this program in 2013.

Some of the NGO libraries have training programmes for their librarians. For example, BRAC Gonokendro librarians receive 11 days training on library management.

Overall, users of libraries in Bangladesh appear to be satisfied with the skills of the librarians. Almost 78 percent of the users expressed satisfaction to varying degrees. While this may reflect the impact of the current level of training the librarians have, the opinions may have also stemmed from the fact that users have set their service expectations from the status quo and have not been introduced to modern day library concepts.

Figure 47: User opinion - library staff are skilled



Source: User Survey data; * Note: N=769 for library users.

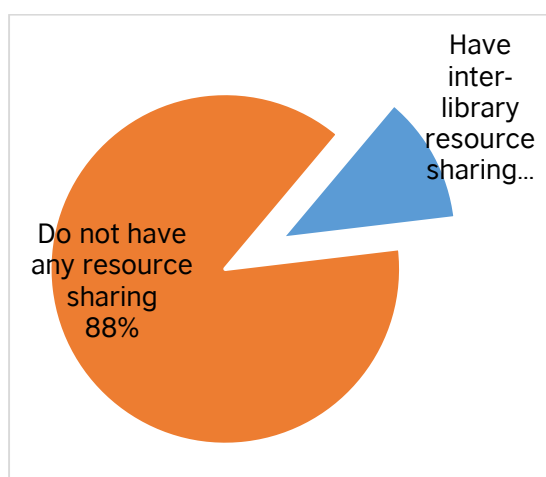
3.8.1.1 Library volunteerism and volunteer management

As the survey conducted under this study indicates, the use of volunteers exists to a limited degree in some of the libraries of Bangladesh. In about one-fifth of the libraries, volunteers are engaged for the purpose of storytelling to children. However, for wider use of volunteers to happen in libraries, a number of issues would first have to be addressed. Existing librarians and other library staff will need to be trained in volunteer management. Recruitment, orienting and training of volunteers, supervision of volunteers (delegating, evaluating, addressing issues, rewarding, etc.) and defining volunteer and staff relations are all important aspects that will need to be dealt with (McNamara, 1997). Given the fact that the issues are new for many libraries of Bangladesh, library associations may consider preparing localized guidelines to help libraries in establishing their own Volunteer Management Systems.

3.8.2 Inter-library resource sharing

The library survey data for the current study shows that in the absence of ICT integration and digitization of resources in the country, the resource sharing scenario is far from impressive. Only about 12 percent of libraries reported to have inter-library exchange services.

Figure 48: Inter-library resource sharing scenario



Source: Venue Survey data; * Note: N=136 for libraries.

As noted earlier, the libraries of Bangladesh, to a large extent, lack resource sufficiency. An effective response to this issue could be made through the establishment of resource sharing between libraries. Library associations can play an important role in this regard. In the late 1990s, the phenomenon of consortia was gaining importance in the country, facilitating cooperation or resource sharing between libraries. Although in those years the sharing was confined to book sharing, many constraints including physical distance between the libraries restricted the practice (M. A. Islam and Mezbah-ul-Islam, 2000).

The growing availability of digital contents provides an answer to this problem globally, although it has yet to be popularized in Bangladesh. A huge level of digitization by libraries, museums and archival institutions in other countries has led to an explosion of digital content. Many of these institutions have now developed common digitization projects and web portals (Yarrow *et al.* 2008). In Bangladesh, a similar drive towards digitization is needed, utilizing and developing on the existing associations through measures such as consortia formation and awareness training (R. M. M. Islam, 2013), along with building an effective network of printed resource sharing.

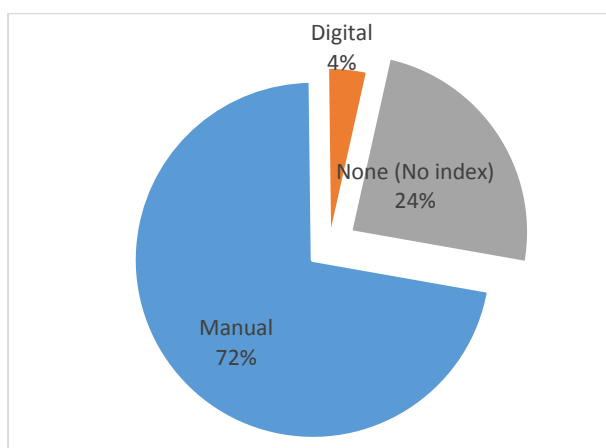
Additionally, ICT infrastructure with high-speed links and a stable network should also be ensured by the government (Rahman *et. al.*, 2006). However, while digitization is suggested, it also should be taken into account that global industrial giants in the sales of digital content and e-books (Amazon, Apple, Google and others) often enforce compatibility of the content with certain devices and applications, which in the long-term has the potential to intensify the digital divide. Any steps toward the digitization of library resources should consider the challenges of coordination between government and NGO library resource sharing, copyright issues of publication and the absence of mobile-friendly versions of all content in Bangladesh.

3.8.3 Managing automation

The introduction of automated self-service, now often using RFID technology, for searching, borrowing and returning resources in libraries can impact significantly on the efficient use of staff space (Public Libraries News, 2015) and provide valuable data to the support management of libraries. Apart from information search by the users with computers and internet connectivity, browsing or searching resources (through indexed list of call numbers) has become the other major use of computers and networks in the libraries of the modern era. But this is one benefit of ICT integration in libraries that is only beginning to take place in Bangladesh. Libraries in Bangladesh, suffering from space and staff shortages, can thus harness the benefits of the introduction of self-service through automation. On the other hand, automation requires the expensive installation of equipment where funding from the government may prove to be inadequate, particularly for a country like Bangladesh.

Equipment to facilitate self-borrowing and return of resources is only being introduced to a handful of libraries very recently. Even digital catalogues are not available in majority of the libraries. About 72 percent of the libraries in Bangladesh still use manual catalogues while only 4 percent have digital indexing of resources. A significant number of libraries (24 percent) have no indexing of resources at all, reflecting their management weaknesses.

Figure 49: Resource indexing in libraries



Source: Venue Survey data; * Note: N=136 for libraries.

Integrated library systems, which automate cataloguing, circulation, acquisitions and other library management functions using a common database, have rarely been implemented in public libraries in Bangladesh.

The cost benefits of open source software availability in recent times may be reaped in this context. Given the resource constraints, public libraries of Bangladesh are yet to venture into automation; so far, some academic libraries like BUET (Bangladesh University of Engineering

and Technology) academic library, East-West University Library and others have introduced a level of automation services, targeting mostly online search and the use of resources. Given the limitation of available public resources, Bangladesh may seek assistance and support from library development partners in this regard.

Case study 4: Automation in East West University Library

Among the academic libraries of Bangladesh, East West University (EWU) library is one of the pioneers of digitization. Established in 1996, EWU library provides access to a wide range of information resources both in electronic and print and it has successfully installed automation systems in all aspects of its services.



EWU library has developed a unique library software called East-West University Library Management Information System (EWULIBMIS) to support and manage various library activities including barcode based circulation, catalog searching, membership information, borrowing limit warning, fine/ due determination, etc. The library website (<http://lib.ewubd.edu>) is designed to provide the user to reserve resources online, search library collections, and access the user guide and the rules and regulations of using the library service. Along with traditional print books, references, periodicals, CDs, DVDs and audio cassettes, the library provides access to several full text e-resources. Over 10,000 titled journals can be directly accessed from EWU campus and the system-generated new arrival lists are provided to members on a regular basis.

EWU library is automated and modern in its use of computers, its access to digitized resources and in the design of its moveable shelves for increased accommodation. Considering its outstanding digitization progress, EWU library is the South Asian hub for the Digital Library Network. EWU library has led the library automation of several government and non-government libraries in Bangladesh including Rajshahi University library, the National Library, Ministry of Education, Ministry of Finance, BANBIES, and Eastern University library.

3.8.4 Marketing, promotion and outreach

Like any other community venture, libraries need promotional activities and efforts to increase their outreach. Apart from traditional forms of advertising like posters and leaflets, there are many innovative approaches in practice globally in the promotion of libraries. Hosting cultural programs or events helps to introduce the library environment and facilities to potential new members. Traditionally, activities to support early reading are used to attract both the children and their parents and thus the community. There are other targeted programs that can be used such as band nights for youths, sessions for new mothers on home works, cooking classes, etc. (WALES, 2012).

Low number of users is one of the challenges that some libraries are facing. The public's interest and awareness about library services needs to be improved with proper promotion along with diversifying services according to people's needs. This study found that several traditional forms of promotion are being carried out by the libraries of Bangladesh. About one-fifth of the libraries advertise their services through the noticeboards of local schools and other educational institutions. A similar proportion of libraries publish posters and leaflets for public distribution. About 4 percent of libraries use Facebook or other social media pages/posts. Some libraries use e-mail and SMS to promote their services.

The library user survey revealed that most of the users (about 56 percent) wished to learn about the news and services of the library from the library authority. Advertising through SMS, email, posters, leaflet, and promotion in local newspaper or social media such as Facebook and Twitter were also chosen by users as their preferred way of learning about the library and its services.

4 The Future Library of Bangladesh

4.1 Following Global Innovations

Public library systems across the world are at a turning point. The way we access and consume information has changed dramatically in the twenty-first century and this presents major challenges and opportunities in all contexts.

In Bangladesh, the context for library services may be different from more economically developed countries, but some of the same challenges remain. There is great potential to

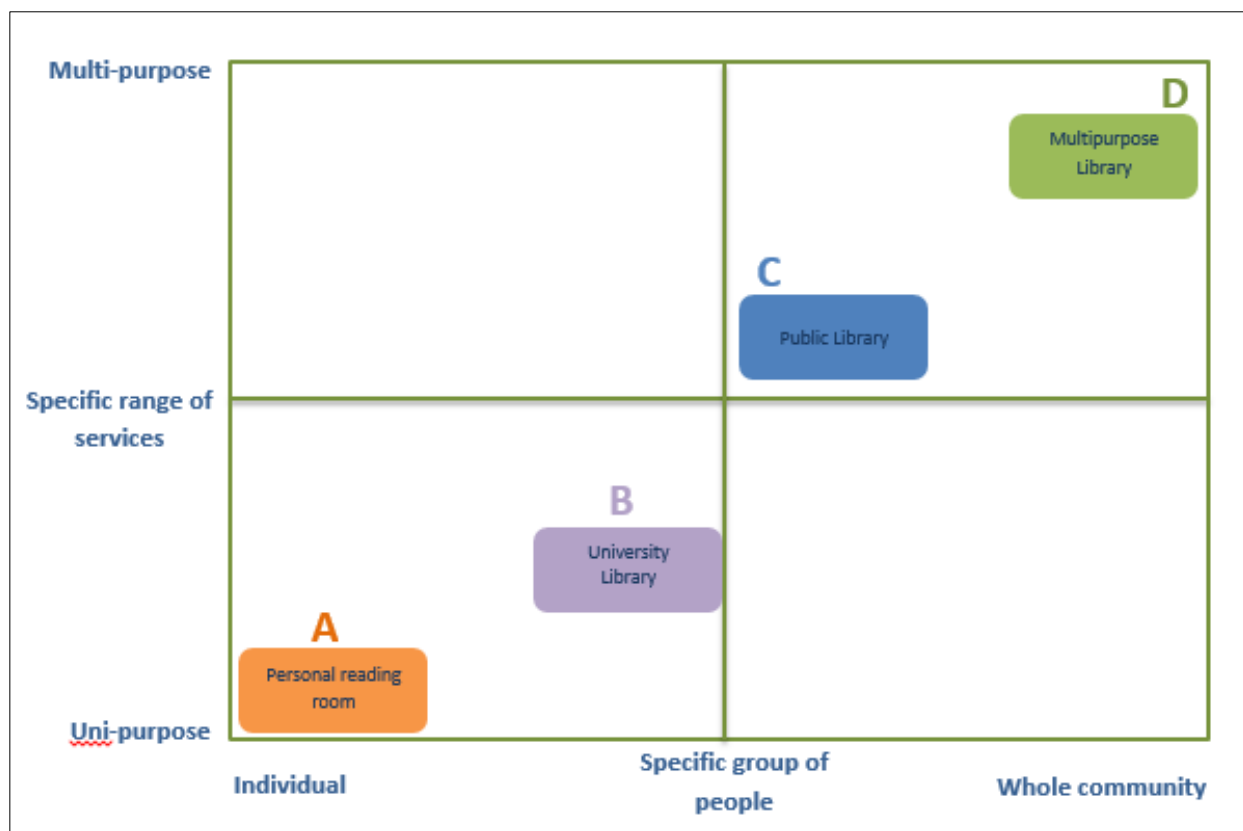
adapt and localize some of the innovative measures, which other libraries in other countries are using as a way to prepare the roadmap for the future of libraries in Bangladesh¹¹.

Building a knowledge society is the most essential purpose of a public library (Gruszczyński and Maciej, 2014, Latimer, 2011, Mannan and Bose, 1998, Freeman, Bennett *et al.*, 2005, Iwhiwhu and Eyekpeggha, 2009, Savenije, 2011, Choy, 2007), and to do so, the resources and services of libraries need to target all citizens. As Figure 50 depicts, users of a library can range from an individual up to the community as a whole. On the other hand, the services of a library can range from the very basic and individual activity of reading books to the wider spectrum of cultural and community offerings.

Academic or specialized libraries only target a select group of people with selected services, while traditional public libraries mostly cater to educated groups who come to read or lend books. Multipurpose public libraries aim to cater to all segments of a community, educated or not, with a wide range of knowledge products and services. In effect, public libraries developed in this way are becoming a new kind of social institution and can assist more people in the community and meet a wider range of their needs.

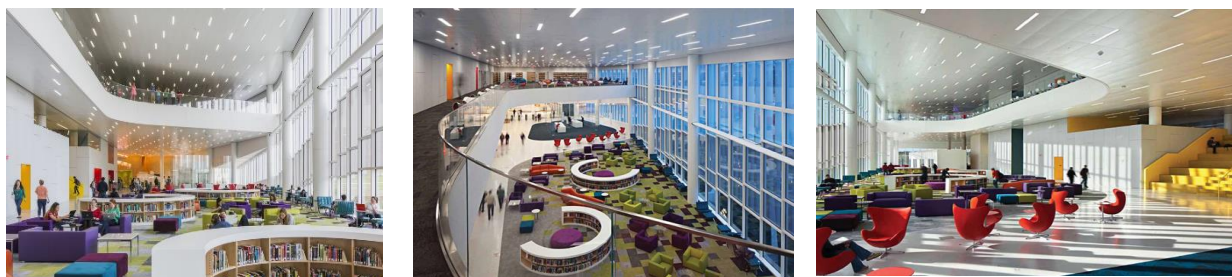
¹¹ Libraries in twenty-first century have been a hot topic for many researchers (Mehra and Davis, 2015, Goulding, 2012, Wenxiang, 2005, Allen, 2005, Webb, 2004, Macdonald, 2012). Many different aspects and approaches have been mentioned for modern and future libraries; *participatory and collaborative approaches* to library service (G. Delaney and Bates, 2015), *new role of information professionals* and academic library staff (Geraldine Delaney and Bates, 2014), *changes in access to information provision* and *changed design of library spaces* (Latimer, 2011), transition to *digital and web based educational resources* (Beetham and Sharpe, 2013), *user ease and meeting opportunity along with core information services* (WALES, 2012), *management of noise level* in line with users natural use of library (Franks and Asher, 2014) and so on.

Figure 50: Types of libraries based on target user group and service provisions

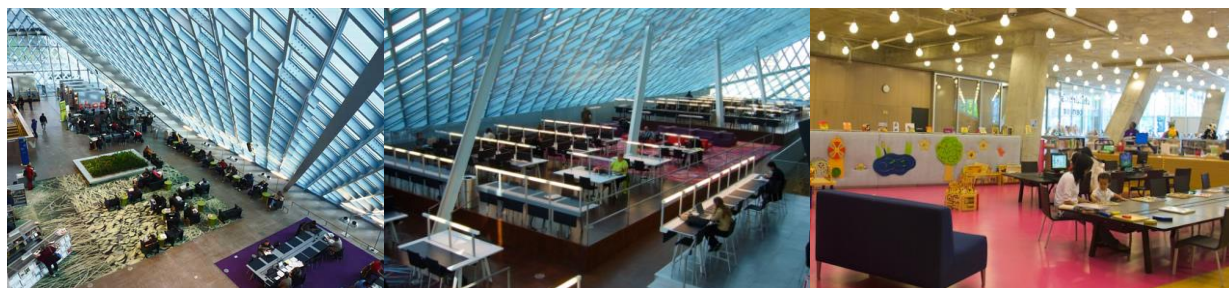


In modern libraries, the **public library as a place** for socialization becomes popular (Coravu, 2010, Yates, 2014) when the library provides a comfortable and secure space for information services as well as for social entertainment (Wales, 2012). To ensure the multipurpose use of a public library and to build social capital, innovative space management for delivering its services has become crucial. The **public library as a service provider** is also facing increasing demand to become a multi-purpose service provider. Public libraries are now housing social spaces, cultural activities and collaborative initiatives ranging from voluntary storytelling for children, to innovation labs such as Makerspaces¹².

¹² Makerspaces, also known as hackerspaces or fablabs, are creative, do-it-yourself spaces where people collaboratively innovate, make and learn. Makerspaces have hardware tools and supplies, software, electronics, craft or even 3D printers to craft and invent. A number of public libraries around the world are housing makerspaces.



James B. Hunt Jr Library, Architect: Snohetta and Clark Nexsen recipient of AIA/ALA Library Building Awards 2013. The design celebrates the power of chance encounter and recognizes the role physical space plays in the intellectual stimulation of users.



Seattle Central Library; Interior space designed for various user activities.

Some libraries of modern times have gone **beyond the silent reading spaces** that traditional libraries used to provide. The Hunt Library in North Carolina has color-coded walls, stairs and elevators to guide the search of books and research papers, media rooms, video game collections along with a 3-D printing lab for creating 3-D plastic models¹³. There are examples of **bookless libraries** like the Bexar County Digital Library where all their resources are in e-readers with no physical books at all¹⁴. There are libraries, e.g. the Cambridgeshire Library, that provide **a range of civic services** including registry of births, marriages and deaths (Worpole and Futures, 2004). The **multipurpose use of space** is another modern concept that is being practiced by the Royal Library in Copenhagen that includes a concert hall, exhibition galleries, bookshop, café and restaurant on top of a traditional library (Hellen, 2009).

¹³ <http://www.lib.ncsu.edu/huntlibrary>

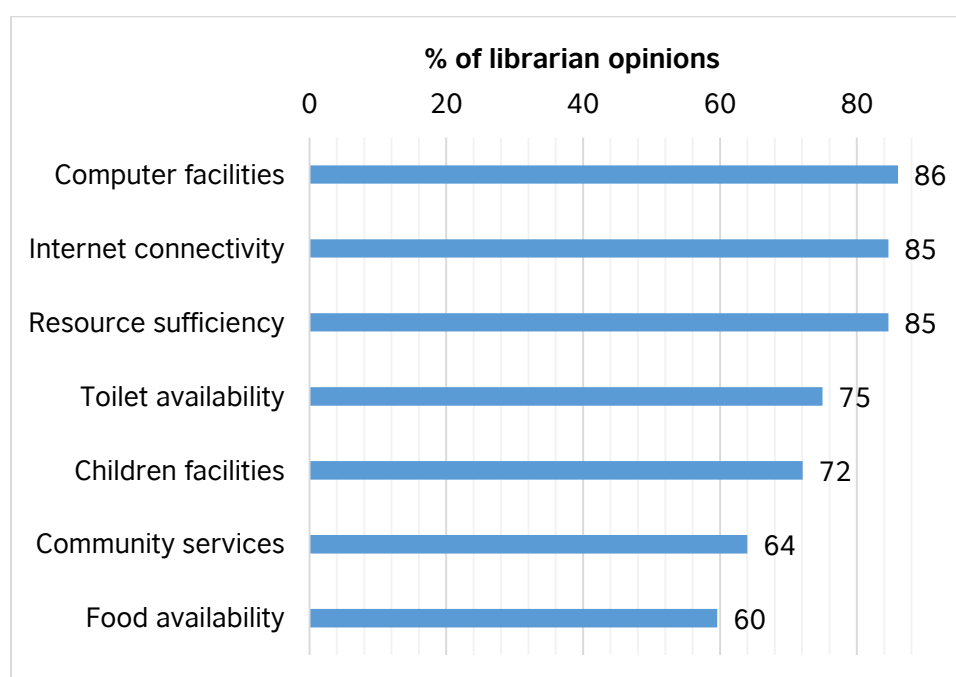
¹⁴ <http://bexarbibliotech.org/>

4.2 Features of Bangladesh's future libraries

4.2.1 Multipurpose Library

Interestingly, users and librarians of Bangladesh also share the same dream of a multipurpose library. The household level public survey revealed that the public demands for information services are diverse. A similar opinion was reflected by the librarians. When asked about the top development priorities for their respective libraries, **86 percent of librarians emphasized improving computer facilities**. Internet connectivity and resource sufficiency are the next most important development priorities for them (85 percent of opinions in both cases). In this multiple response question, **64 percent of librarians wanted to introduce community services**, while 60 percent wanted food availability for the users.

Figure 51: Top development priorities (opinion of librarians)



Source: Venue Survey data; * Note: N=136 for libraries.

4.2.2 Space to Connect People

Using the public library can be a positive social experience for many (Koontz and Gubbin 2010). The modern library is all about making connections—connections between different groups of library users, connections between library users and library staff, connections between library users and resources (Carol, 2003). The space of a modern library should provide, in addition to reading rooms, other spaces with various functions such as those:

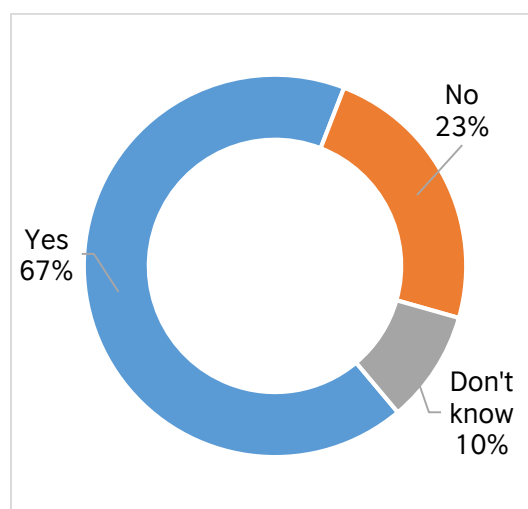
- for individual or group work and study;

- dedicated and/or appropriated to the use of new media;
- support the teaching process, socialization, etc.

Libraries are increasingly being designed to enable people to do things together. Individual work spaces are an alternative for users who need perfect quiet to study. On the other hand, the group work spaces allow students to solve certain seminar assignments which require teamwork and help them develop communication skills and a collaborative spirit. Also, more and more, the library building is now seen as a facility supporting an increased role in higher education with classrooms, meeting rooms and computer labs (Coravu, 2010).

A modern library should try to reach people who cannot normally access the library, and this can be done through mobile library services. According to the survey findings, a significant number of library users (67 percent) think that mobile library services can be an effective way of serving their locality.

Figure 52: Potentiality of mobile libraries – user opinion



Source: User Survey data; * Note: N=769 for library users.

The concept of using the library space for such multiple uses has begun in Bangladesh to a very limited extent, and only in urban areas. EMK Center, Bengal Art Gallery, Bishwo Shahitto Kendro, and the British Council library are seen to offer multiple public services other than only book reading and lending services. They provide (often on a paid-for basis) space for art exhibitions, entertainment programs for children, coffee and community socialization events. Book shops such as Batighor and Pathhok Shomabesh have initiated the idea of reading facilities along with buying options in Chittagong and Dhaka city, respectively.

Case study 5: Bishwo Shahitto Kendro - taking libraries to home

Bishwo Shahitto Kendro (BSK) meaning “World Literature Center” is a non-profit institution in Bangladesh established in 1998 by Professor Abdullah Abu Sayeed. BSK promotes reading habits, enlightenment and progressive ideas among students and the general public by actively maintaining libraries across the country. BSK is the pioneer in Bangladesh for the concept of the mobile library in vans and buses. Currently, the mobile library program covers about 120,000 readers in 1,800 localities of 56 districts of Bangladesh. There are



a total of 44 mobile libraries of BSK. Anyone can be a member paying a minimum membership fee. The Mobile Library units visit selected localities as per a weekly schedule and stay for 30-60 minutes, depending on the number of members/readers of the particular spot. Additionally, they offer classes, a nationwide reading program, and they provide books for the students. This year BSK has launched a mobile application allowing readers to access its books from mobile devices. Programs such as literacy and cultural competitions, book discussions, screening of films, guest lectures and cultural events are also areas of BSK's undertaken initiatives.

Case study 6: Boat libraries - reaching the hard to reach community

Utilizing the river based eco-system of Bangladesh as communication channels rather than considering them as hindrance to information services, Shidhulai Swanirvar Sangstha - a non-profit organization - started its journey with mobile information services on floating vessels for people in hard to reach waterside communities. Currently, operating through 54 floating schools, libraries, health clinics and floating training centers equipped with

wireless internet access, they are serving close to 97,000 people in flood-prone areas of Bangladesh. These boats have fitted solar panels for power supply to computers, lights and medical equipment. The central library of Shidhulai has internet enabled computers and 50,000 books and periodicals. The Centre for Library & Technology of Shidhulai in Chalanbeel region is equipped with more than 100 computers. Other than library and information services, they provide training on computer, technology, sustainable agriculture and human rights.



The financial sustainability of these *mobile information fleets* is maintained through their technological innovation products. Shidhulai has been awarded with The Bill and Melinda Gates Foundation's

Access to Learning Award 2005 and has been considered as a replicable model, both locally and globally.

4.2.3 Demand-based access to information

Rather than a supply driven access to information, library services must be designed according to the information demand of the people. Information stored and supplied by the library must also be in local language, along with resources of other languages. To cater for this complex dimension of information need and seeking behavior, a modern society needs to provide its citizens with efficient information services.

Every individual needs information in every step of life - intentionally or not, literate or not (Aina, 2004). The individual's location, age, gender, daily activities, education, occupation, socio-economic and cultural condition and even environmental condition may influence the type and extent of their need for information (Aina, 2004, Agboola, Kumar 2008, Samuel et al., 2013, Ukachi (n.d.), Hossain, A. and S. Islam, 2011).¹⁵ Ensuring people's access and right to information has been highly prioritized by the Government of Bangladesh. However, scarcely any government initiative has been taken to trace the kind of information people generally seek and their information seeking behavior.

¹⁵ Scholars have long been studying people's information seeking and usage behavior, and have attempted to define and explain terms as information behavior, information seeking behavior, information searching behavior and information use behavior (McDiarmid, 1940, Ayres and McKinnie, 1916, Warner, et al., 1973, Palmer, 1991, Wilson, 2000).

Recalling from section 3.4, information need of the people is generally found to be of six broad categories: (i) health, (ii) education, (iii) daily necessities, (iv) financial and other services, (v) entertainment and (vi) employment. Majority of the need are related to people's basic survival, forming the base of the information-need hierarchy, while governance and accountability related information form the top of the need-pyramid. Future libraries of Bangladesh and layout of library services will need to be designed keeping this hierarchy as the central consideration.

Figure 53: Hierarchy of information needs



4.3 Infrastructure and Services

4.3.1 Design considerations

Today's libraries are characterized by varying types of spaces that are flexible in nature. Architects have to keep in mind several factors of usability while designing libraries. Those factors may include, but are not limited to:

- the 'user' profile
- local environmental issues
- the site location
- the library program or services
- special community needs
- choice of building material

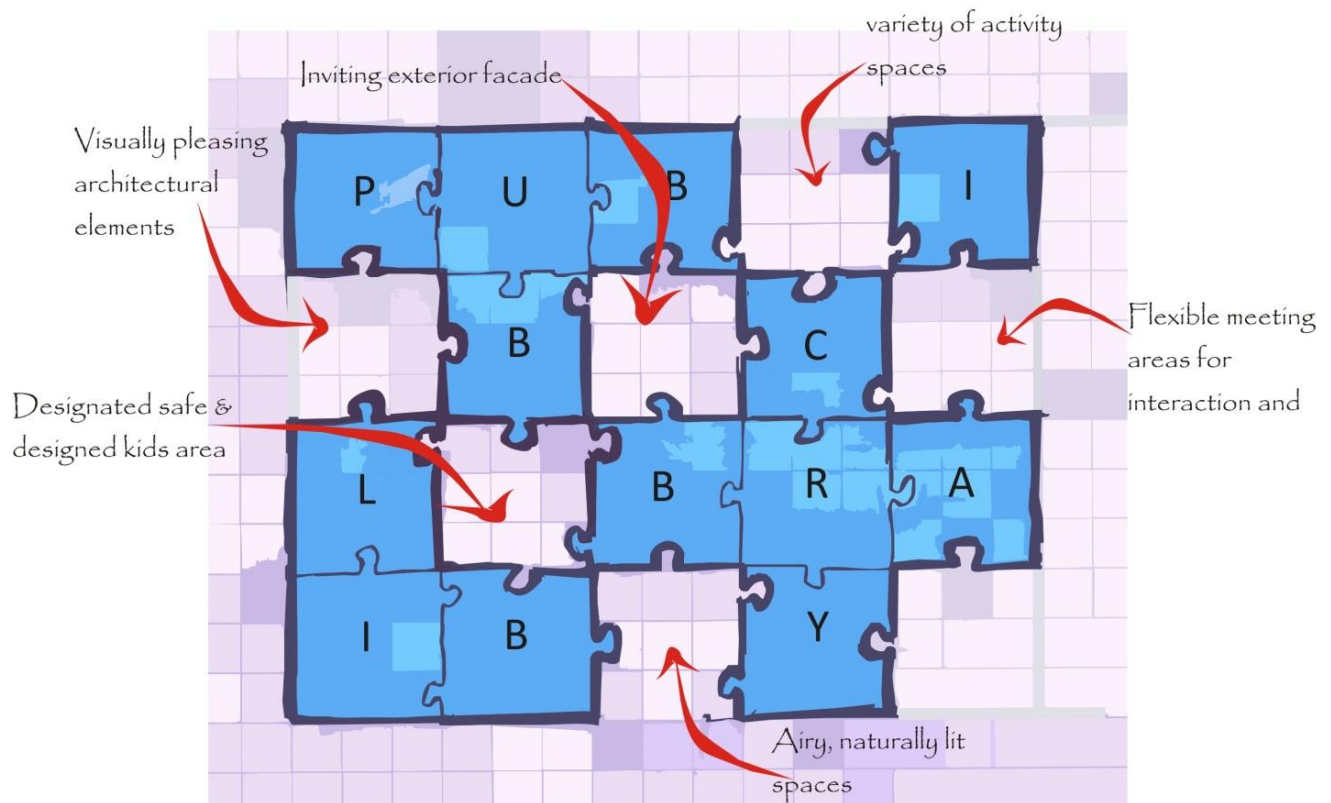
- space use culture i.e. user perceptions of a library building
- sustainability issues; funding, maintenance and disaster management

When thinking of designing a *Rural Community Library*, it is important to identify and focus on the user perceptions of a Library building in its socio-economic context. A prescribed facility without the socio-cultural connection and conformity hinders the actual purpose and success of the project. That is to say, the design features, architectural elements and spaces of the building which the “users”, in this case rural people, both educated and non-educated knowledge and information seekers, would expect and enjoy to see in a new or re-furbished library and information facility. Architecturally, the building should embody features that conform to the aesthetic and social values of the local culture so that it is inviting rather than overwhelming to ordinary people.

The architecture of a rural community library should take into consideration the following:

- Strategic site location to ensure access to all parts of the community
- A vernacular approach to form and structure to ensure a positive emotional response to the building
- Environmental challenges such as yearly floods.
- Local building materials for affordable and easy maintenance. Achieving multi-use spaces, i.e. to accommodate community awareness programs and specialized training sessions.

Figure 54: Missing parts of public libraries which need to be addressed in Bangladesh



- Connectivity with outdoors to enhance its social role as a “place”
- Ability to be flexible in responding to the community’s needs, such as convertibility to a “voting center” during election time
- Reflection of community identities, such as cultural reflections of small ethnic communities.

Library buildings have gained a much higher profile than before and therefore marketing value, for both their exteriors and interiors. New library buildings looking like sculptures seem to attract broad attention and admiration.



Figure 55: Battery Park City Library, New York



Figure 56: External view of Seattle Central Library

Design, fantasy, and the use of light and materials combined with new technology create new architectural attractions, often of international quality and standing. With its focus on culture and knowledge, the library building adds status and identity to a local community or a university.

From the outside, the double-height glazed elevation presents an invitation to passersby, drawing them into the space.

4.3.2 Location and visibility

It is of immense importance for a library to be suitably located relative to the convenience of users to encourage them in using the facilities (Withers, 1974). In this regard, Koontz (1992) concluded that the location of libraries has a long-term effect on library use. Obokoh and Arokoyu (1991) applied the central-place theory in studying public libraries of Nigeria and found that time and cost of travel to libraries are the main determinants of people's frequency of library usage. Japzon and Gong (2005) also found that social connections and integration affect people's use of the library. Koontz (1992) recommended that location decisions of libraries should take into consideration the geographic coverage of the library in terms of its intended user base and the characteristics of the people living within the area. Bangladesh should also follow these criteria while deciding the location of future libraries: it appears from the survey responses to have a good track record to date in this respect.

4.3.3 Convenience

To attract and support users, libraries need to be made comfortable, and to encourage people to stay longer they require provisions for toilets, refreshment and relaxation (Worpole and Futures, 2004). At the same time good lighting, temperature control, proper ventilation and noise control need to be ensured (Withers, 1974). The status of libraries in Bangladesh

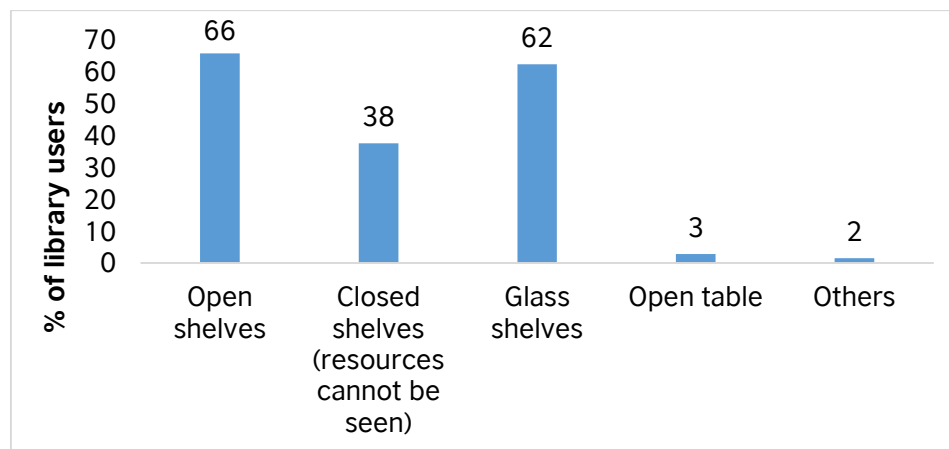
from this perspective tends to vary, often between geographic areas. In the villages a typical library structure is often not a particularly welcoming space, and likely to become uncomfortable in hot or wet weather (Katz and Bon, May 2014).

4.3.4 Library Resources

Back in 1974, Withers wrote that the “library should provide books and other printed material and also other forms of material such as films, records, tapes, slides, illustrations, through which information can be given and knowledge and understanding acquired”. With the passage of time digital content has gained in importance and abundance. In many cases, printed editions of journals are no longer complete or authoritative. Rather, their electronic editions have become more authentic versions of record. Also, there are contents that cannot exist in print form (simulations, animated models, video or sound recordings, etc.). But this development does not eradicate the importance of print resources for libraries, as it is a concern that digital contents, stored online like subscribed journals, may not be available in the future (Keller *et al.* 2003).

When asked about user preferences on how the books should be arranged in a library, majority (66 percent) of the users said these should be kept on open shelves where users can see and browse through the books themselves. Interestingly, a similar proportion of users (62 percent) said books can be arranged in glass shelves as well. However, 38 percent users also felt that books should be stored in closed shelves as well, so that they cannot be reached or seen by the users, possibly from a security point of view.

Figure 57: User preference regarding arrangement of books



Source: User Survey data; * Note: N=769 for library users.

4.3.5 Access to global knowledge and resource hubs

With the advent of ICTs in libraries, resource sharing between libraries has gained in potential and practice. To improve on the current resource limitations of libraries, emphasis needs to be put on maintaining an active resource sharing system among libraries (Mannan and Bose, 1998). No collection can exhaustively meet the user requirements. And no two different library collections are the same. Libraries, therefore, can greatly enhance services to their users by providing them with access to the collections of other libraries (Koontz and Gubbin, 2010). It is also a fact that no library can monitor and keep updated with the vast galaxy of knowledge in all fields and accumulate for the users. This further emphasizes the need for resource sharing by the libraries (M. A. Islam and Mezbah-ul-Islam, 2000).

Resource sharing among libraries in the traditional sense would mean exchanging printed library materials or inter library loans among libraries in different geographic locations, which in the modern ICT context has been transformed into sharing electronic information, databases, catalogues and other online information networks (Rahman, Nahar and Akhter, 2006). Considering the ICT advancement, library resource sharing and networking now refers to the collaborative activities of both library and information centers (Mannan and Bose, 1998). Physical distance, resource limitation, service enhancement of libraries, cost effectiveness and coverage of a variety of updated knowledge streams have been the underlying basis to the concept of digital resource sharing, networking and eventually consortia among libraries. Such issues of cost, physical transfer of printed materials and limitation of resources can be addressed through the use of digital contents rather than through printed books or materials. Additionally, with more than 116 million¹⁶ mobile phone users in Bangladesh, libraries can access people digitally. To that end, digital content sharing has the potential to overcome the unequal access to information resources for specially abled and illiterate people. For example, a project in India called “the Kahani Project” crowd sources stories in digital audio format online and made this library accessible to children and young adults with visual impairment or with socio-economic or literacy limitation,¹⁷. Such networked initiatives through ICT enable libraries to address the challenges of accessibility and inclusion.

In Bangladesh, the majority of libraries still do not have access to full text digital information resources (R. M. M. Islam, 2013). Access to electronic information resources by the academic community in Bangladesh has been limited mostly due to poor Information and Communication Technology (ICT) infrastructure and the huge cost associated with accessing such resources (Rahman *et al.*, 2006). The notable existing resource sharing and networking

¹⁶ Progress towards Digital Bangladesh: Current Status, 2014, MoF.gov.bd

¹⁷ For detail: <http://thekahaniproject.org/>

initiatives in Bangladesh include National Health Library and Documentation Center (NHLDC), Population Information Network (POPIN), UN Library Network in Bangladesh (UN L-Net BD)¹⁸ and UGC Digital Library (UDL)¹⁹.

4.3.6 Innovation in ICT use

Global library automation, use of ICT and digitization have put access to libraries in distant countries at users' fingertips. Automation and digitization of libraries is now underway in Bangladesh but is still at a low level. About a quarter of the surveyed libraries do not have any type of cataloging service. Among the rest, only 4 percent of the libraries have digital cataloging service.

Web-based library services are also provided by only a few libraries. Only 14 percent of libraries provide information such as a list of basic services, business hours and contact information on their own website/portal. About 13 percent of libraries provide an online list of resources and reading materials and 11 percent of the libraries have e-book download facilities.

4.3.7 Diversified services

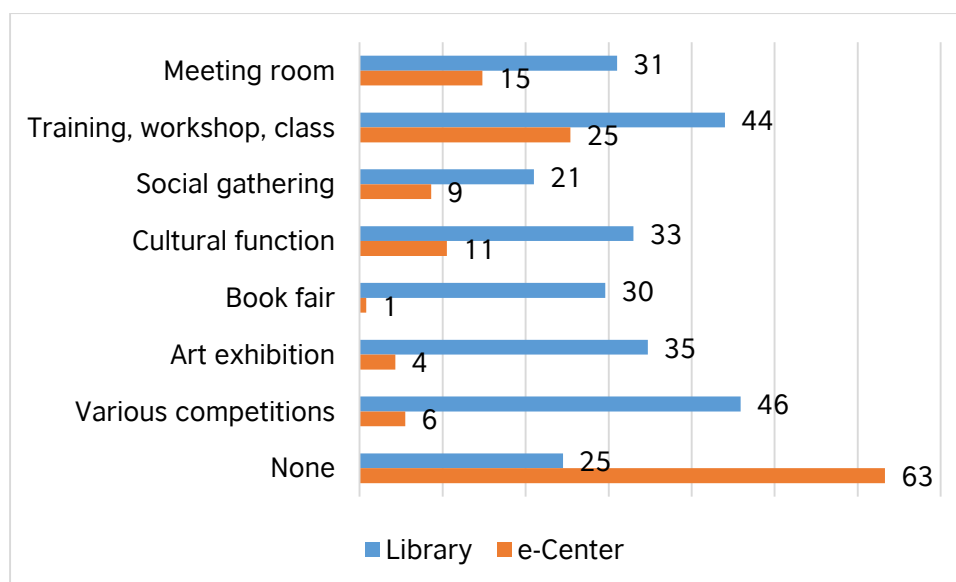
The use of libraries as a place for painting, essay and cultural competitions is practiced in 46 percent of the surveyed libraries. An almost similar number of libraries report being used as training or workshop venues. More than one-third of the surveyed libraries are used as meeting rooms and hold cultural functions, book fairs and painting/art exhibitions. However, the multiple use of e-Center venues appears to be quite limited. About 63 percent of the e-centers that participated in the survey reported to have no other use than regular business.²⁰ Only one quarter of the respondent e-centers hold trainings, workshops or classes and only 15 percent of the e-centers are being used as meeting rooms.

18

¹⁹ UGC Digital Library (UDL) was formed in June 2012 and hosted by the University Grants Commission (UGC) of Bangladesh.

²⁰ Common services of e-centers include photocopying, printing, providing government's e-services, assisting in job search, etc. More on regular services of e-center can be found in section 3.7.

Figure 58: Status of multiple use of library and e-center venues



Source: Venue Survey data; * Note: N=136 for libraries and N=315 for e-centers.

A diverse range of innovations in library services have been identified such as mobile libraries and book parcel services for remote users, though more than 38 percent of libraries in Bangladesh do not have such facilities. Only 10 percent of libraries have mobile library services. A large portion of the surveyed libraries have a postal book lending service for members. About 21 percent of the libraries organize book fairs in academic institutions of the area to promote the reading habit and the library's services.

5 Key Challenges

Public libraries in Bangladesh are lagging behind the global process of global transformation into a new kind of social institution which serves communities as a place for knowledge, learning, information, innovation and culture. Low policy prioritization and lack of public investment are two of the major challenges faced by the public libraries of Bangladesh, which ultimately fuel micro level challenges related to infrastructure, resources, management practices and ICT integration.

5.1 Weak linkage with national policy framework

The governance of public libraries in Bangladesh is very weakly linked with the policy framework of the country. Until the *National Public Library Policy* was formulated in 2001, there was no national policy guidelines for governing public libraries. Still no legal framework has been enacted to enforce implementation of the policy to govern the libraries.

Action plans to develop public libraries is one of the lower prioritized issues in national planning documents such as the *Five Year Plan* or the *Long Term Perspective Plan*. Despite the government's willingness to modernize the information services of the country, the role of the public library as a hub for community services is yet to be recognized.

5.2 Lack of public investment

In resource-constrained countries like Bangladesh, sectors aligned with mainstream economic development (e.g. agriculture, industry, manufacturing, power, etc.) are highly prioritized, while public investment for ministries that deal with information services (e.g. Ministry of Cultural Affairs, Ministry of ICT, Ministry of Information and Ministry of Posts and Telecommunications) have remained at a very low level. In the national annual budget 2014-15, allocation for the Ministry of Cultural Affairs and its associated agencies i.e. Department of Public Libraries, National Book Center and Directorate of Archives and Libraries, which are designated for public library governance, is only 0.1 percent of the total national budget. Though non-development budget, which includes regular expenditure such as salary and allowances, and other maintenances have increased slightly, allocation for development projects is almost zero. Currently, only one development project is enlisted under the Annual Development Plan (ADP).

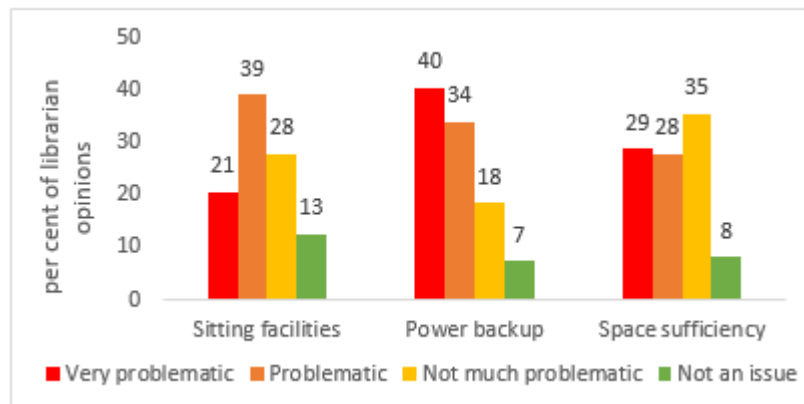
Though public libraries are run by government funding, the need for a sustainable business plan cannot be underrated. This is even truer for non-government private libraries. Only about 14 percent of the libraries are reported to have sustainable finances in the sense that income generated exceeds costs, and 34 percent are incurring loss in running the library's services.

5.3 Challenges related to infrastructure

Space insufficiency is a serious issue according to 29 percent of librarians. About 21 percent of librarians view the lack of sufficient seating for the users to be a serious problem.

For the smooth operation and service delivery of a library, uninterrupted power supply is crucially important. According to 40 percent of librarians who participated in the survey, unavailability of power backup systems is a serious concern for libraries. Another 34 percent think of it as a moderate concern. On the other hand, 25 percent of librarians identify this issue to be of low or no significance for the libraries.

Figure 59: Infrastructure challenges perceived by librarians

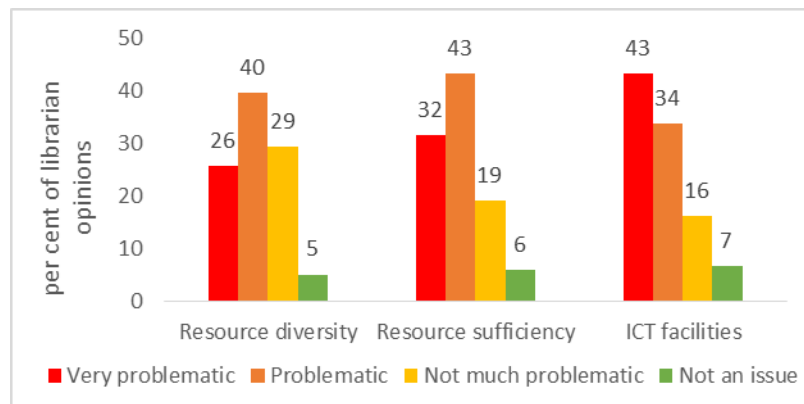


Source: Venue Survey data; * Note: N=136 for libraries.

5.4 Challenges related to library resources

About 32 percent of the librarians think that resource insufficiency (lack of reading materials and audio/video contents) is a serious challenge for their libraries. It is a moderately problematic issue for 43 percent of librarians. On a different note, 26 percent librarians identify resource diversity to be a very problematic issue, while another 40 percent identified it as a moderate problem.

Figure 60: Resources challenges perceived by librarians



Source: Venue Survey data; * Note: N=136 for libraries.

About 43 percent of librarians identify insufficiency of ICT facilities as a serious resource challenge that libraries are faced with at present; 34 percent of them view it as a moderate concern. But to about 23 percent of librarians, ICT resources are not a significant challenge facing the libraries.

5.5 Challenges regarding ICT integration in public libraries

Major barriers in ICT integration are:

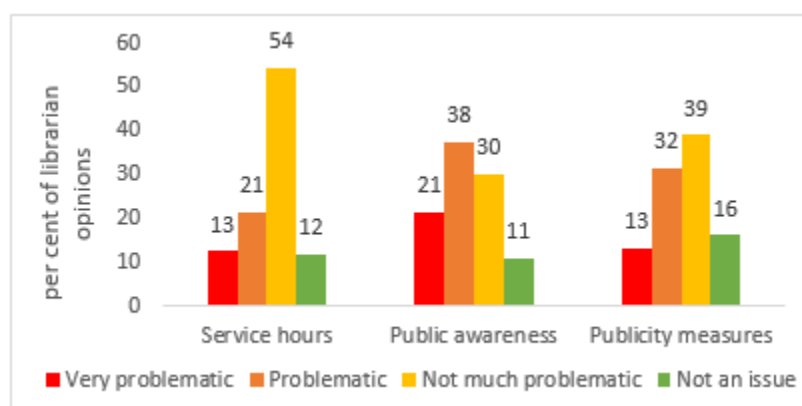
- financial constraints;
- lack of ICT trained library professionals;
- isolated efforts toward ICT integration;
- lack of knowledge sharing networks to achieve this; and
- lack of planning and policy prioritization.

In addition, inadequate physical facilities, telecommunications infrastructure and power shortages are other constraints that hinder libraries' ICT integration.

5.6 Service delivery and outreach challenges

For 21 percent of librarians surveyed, the level of public awareness is a serious barrier. Another 38 percent think of it as a moderate problem. The remaining 41 percent of librarians identify this issue to be of low or no significance at all for libraries. The current service hours of libraries are very problematic according to 13 percent of librarians. A similar number view lack of publicity measures to be a serious concern.

Figure 61: Service delivery and outreach related challenges perceived by librarians

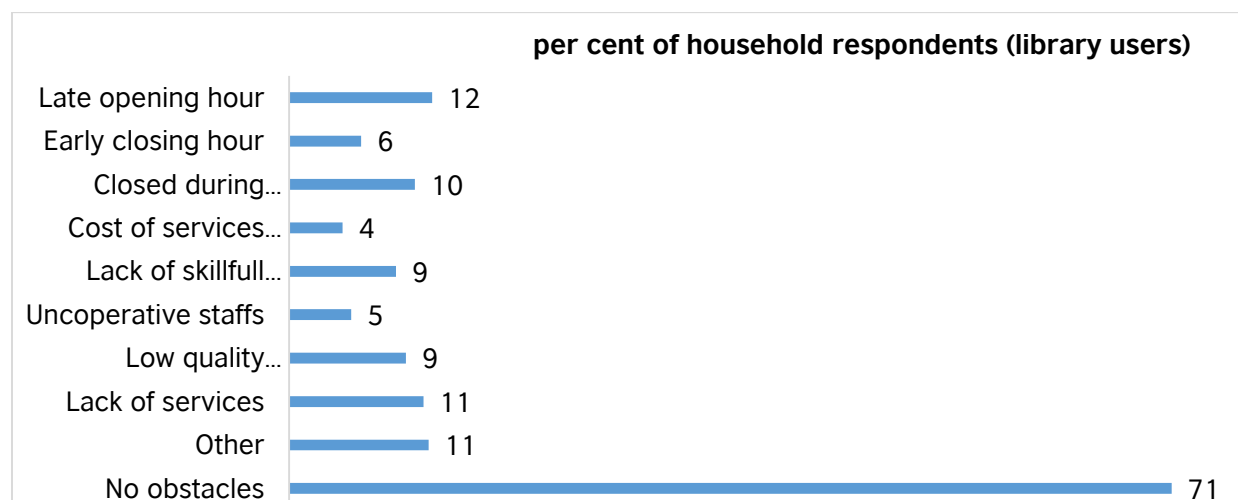


Source: Venue Survey data; * Note: N=136 for libraries.

When asked about what types of difficulties they face in accessing library services, the majority of the library users (71 percent) said they do not face any obstacles. However, 12 percent of them mentioned late opening hours of libraries to be problematic. Another 11 percent of users said libraries lack the services they need. Libraries' remaining closed during the weekend was found to be problematic for 10 percent of users. A number of them also

pointed to a lack of skilled staff (9 percent), low quality services (9 percent), early closing hours (6 percent) and others to be obstacles to their library use.

Figure 62: Obstacles to library use (library services)



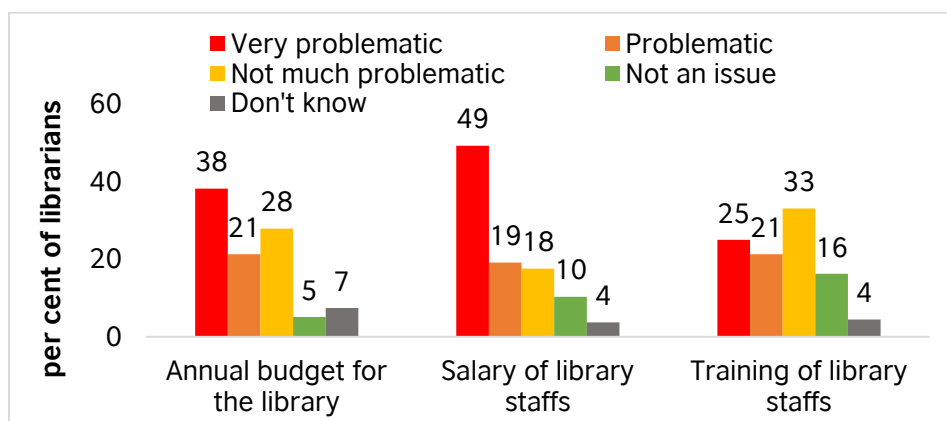
Source: Venue Survey data; * Note: N=136 for libraries.

The use of libraries has diversified over time, though public libraries in Bangladesh have diversified their services only to a very limited extent. Only 9 percent of government libraries hold movie shows and merely 1 percent use their space for organizing seminars or meetings. ICT facilities are at the core of a modern library. Only 4 percent of these government libraries are reported to have internet services available for the public.

5.7 Management challenges

When librarians were asked about management challenges they are faced with, their major concerns were found to be linked with library financing. About 68 percent of librarians expressed dissatisfaction of varying degrees on staff salaries, and 59 percent of them expressed moderate to high dissatisfaction over annual budget of the library. Meanwhile, about 25 percent librarians felt that lack of trained staff is very problematic for their libraries.

Figure 63: Management challenges of libraries perceived by librarians

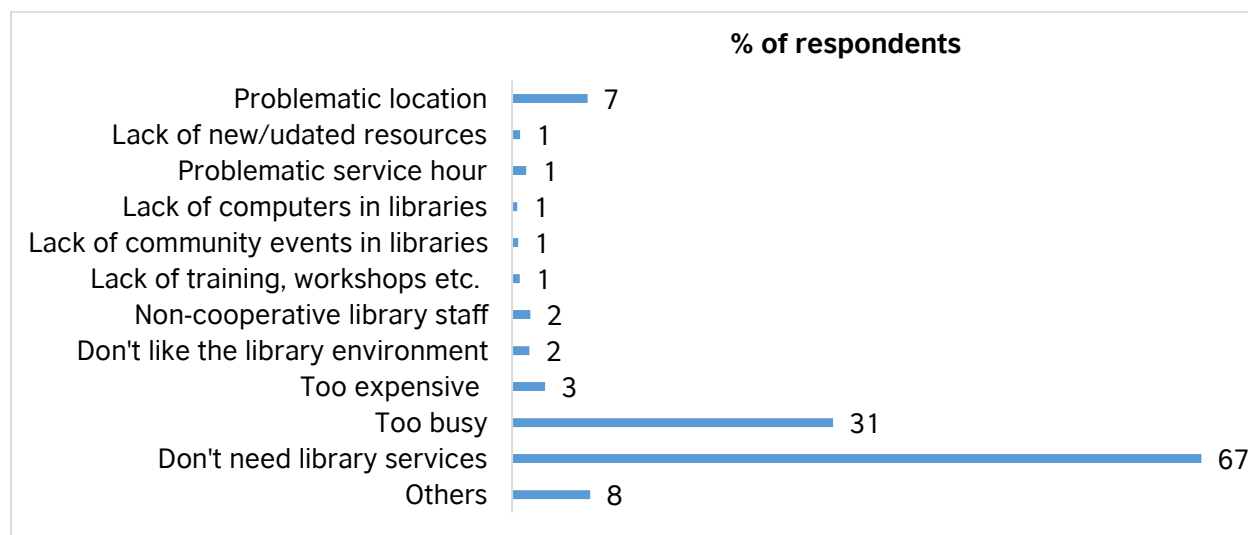


Source: Venue Survey data; * Note: N=136 for libraries.

5.8 Why have they 'never been to a library'? Reasons for not using libraries

The majority of household respondents who never used libraries mentioned that they do not need library services. Another 31 percent of respondents said they are too busy and cannot find time to visit libraries. However, 7 percent of respondents pointed to the problematic location of libraries as the reason for their non-use.

Figure 64: Reasons for not using libraries - opinion of non-users

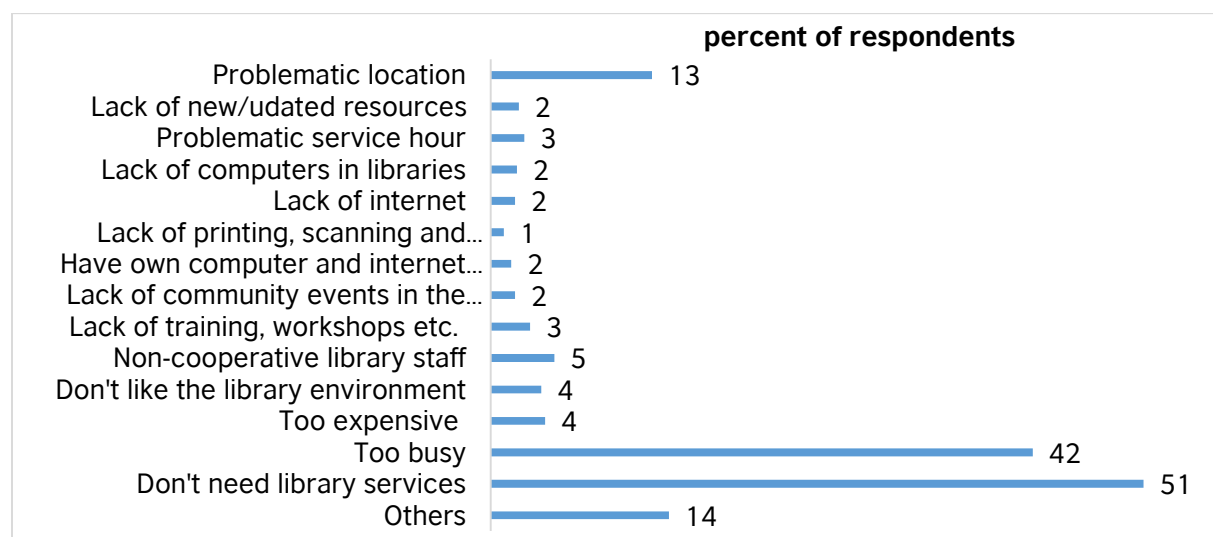


Source: Household Survey data; * Note: N=2520 for non-user household respondents.

5.9 Why do they ‘not visit the library anymore’? Reason for ceasing library use

Household survey respondents, who have stopped using libraries for more than a year, were asked to mention the reasons behind not using libraries anymore. The majority of the respondents (51 percent) mentioned that they do not need library services. Another 42 percent of respondents said they were too busy and could not find time to visit libraries anymore. About 13 percent of these respondents, however, said that they have stopped using libraries because of the problematic locations of the libraries.

Figure 65: Reasons for not using libraries - opinion of ex-users



Source: Household Survey data; * Note: N=688 for ex-user household respondents.

6 Conclusion: Action Needed

6.1 Approaches for developing a modern public library

While designing a strategy and formulating an actionable plan to transform public libraries from their traditional form into modern and multipurpose spaces, a number of crosscutting issues need to be considered.

6.1.1 Renovation through innovation

- Renovating a public library would need to employ innovative approaches in the redesign of its infrastructure, services and other facilities.

- Global experiences of innovative approaches to renovate libraries such as the concept of multipurpose use, design and outreach methods can be replicated and adapted to the Bangladesh context.

6.1.2 Learning from existing practices

- Drawing lessons from best global practices in library management, operation and service delivery would be advantageous saving a lot of time and effort.
- Besides global experiences, examples can be found in Bangladesh regarding library modernization and automation, and development of non-library based information service facilities (e.g. e-centers like UISCs).

6.1.3 Making a library for all

- Rather than treating the users as a homogeneous group, while planning to develop public libraries, the needs of adults and children, men and women, capable young and people with special needs, literate and illiterate, rich and poor, and other divergent groups should be kept in mind.

6.1.4 Right and access to information

- Rather than a supply driven access to information, library services must be designed according to the information demand of the people.
- Information stored and supplied by the library must also be in the local language, along with resources of other languages.

6.1.5 Multipurpose approach to library

- The modern concept of a library is not limited to books but entails redesign to act as a knowledge source, a provider of information services and a hub for cultural activities.
- A modern library should be connected to global knowledge networks, information and learning centers and idea stores e.g. Makerspaces where people can individually or collaboratively materialize their ideas and innovations.

6.2 Improving library infrastructure

6.2.1 Ensuring better ICT integration

6.2.1.1 Improving ICT readiness of the libraries

- A significant drive is needed for library staff to be trained to overcome their fear of ICTs so that they are motivated to introduce ICT based services.

- ICT development programs for library staff through visits of ICT and LIS professionals can be introduced. Library associations can also play a big role.
- In order to optimize their use, computers that are currently available for staff-use need to be made available to the users, possibly through time-based allocation.
- Local area networks or LAN connectivity of the computers are needed for storage and internet sharing. Wi-Fi connectivity facilities need to be introduced to overcome infrastructure shortage through the use of user PCs/smartphones. This may require technical and financial support.

6.2.1.2 Improving ICT readiness of the users

- Workshop sessions for the library members and general users may be introduced on using computers and mobile devices and navigating the web and other ICTs for receiving library services.

6.2.2 Introducing web based services

6.2.2.1 Introducing digital catalogues

- Library resource catalogues need to be digitized and made available for online and offline use. User orientation programs need to be introduced to familiarize them with using digital catalogues.

6.2.2.2 Promoting resource sharing

- Digitization of resources will be needed to facilitate resource sharing.
- An effective network of libraries needs to be established through library consortia on a priority basis. Involved ministries need to engage with existing library associations in framing the network and connecting all public, private and NGO library initiatives.

6.2.2.3 Ensuring remote access to resources

- Digital resources and digital library catalogues are pre-requisites for remote access through the internet. Online access to services will require software support and the training of library staff. Open source free software needs to be utilized to minimize cost implications.

6.2.3 National infrastructure requirement

Given the potentials and the increasing penetration of ICT infrastructure, libraries are still hovering in-between the past (print collections) and the present (digital contents). Therefore, this transition requires an all-inclusive national infrastructure to embrace ICTs in the library sector (Freeman *et al.*, 2005) and to advance from print-based traditional libraries to modern ICT integrated future libraries.

6.2.3.1 *Electricity/Power*

- Individual power backup systems are expensive solutions to power outages and many of the libraries are not able to afford such solutions. Uninterrupted power supply for library services that depend on them will require the development of the power base at the national level.

6.2.3.2 *Mobile Network*

- The government should begin incentivizing the expansion of 3G services in rural areas by the mobile network operators. Terms and cost of expanding mobile internet network by the operators may be reviewed.

6.2.3.3 *Buildings and Spaces*

- National infrastructure requirement for library buildings should be viewed from three perspectives: new building establishment, renovation of the existing library buildings and use any of the existing government buildings for library purposes.
- Using existing government buildings should be considered as the last option since significant variables like visibility, preferable location and other factors favorable to libraries may not be available in the existing buildings.
- Some model libraries can be established, which can then be used as national library hubs that should be regarded as replicas for modern libraries in the digital era.
- For the existing libraries, renovation according to modern and digital library concepts should be the priority.

6.2.3.4 *Broadband connectivity*

- The government of Bangladesh is expanding broadband connectivity through the optical fiber network. The potentials of connecting the libraries with this network need to be persuaded actively.

6.2.4 *Digitization of resources*

While digitization and e-connectivity has become the answer to several existing problems faced by libraries in sharing and disseminating their contents, the following factors should be considered in pursuing this goal:

6.2.4.1 *Diversity of digital resources*

Each digital content should be made available in audio-visual format, Braille system along with its original text format to address inclusiveness and right to information for all.

6.2.4.2 *Inter-operability/ Standardization*

A standardized format should be used for digitizing contents to ensure access through different operating systems and different types of devices. Mobile friendly view, standard internet speed requirement for accessing any content, limitations of different operating systems and such other technical issues hindering universal access to library contents should be taken into account.

6.2.4.3 *Metadata interoperability*

Common metadata standards should be investigated and adopted for the description of digital resources to ensure their interoperability.

6.2.5 *Innovative design for a modern library*

6.2.5.1 *Facilitating multi usage*

Support may be provided to libraries for modification of the existing furniture to facilitate their easy movement so that rooms can be quickly and easily rearranged for different uses.

6.2.5.2 *Introducing diverse facilities and services*

- Diverse facilities within the public library should be introduced to facilitate the currently popular multipurpose concept in the library sector with additional facilities such as makerspaces or hacker spaces, which are currently popular in libraries globally. Makerspaces include materials, tools, and technologies that allow for hands on exploration, video and audio capture, large format printing, art-related workshops, music recording spaces and such other facilities.
- Beyond making available library materials, libraries should provide meeting and learning facilities. Additional meeting space along with learning facilities like ‘Homework session’ for children, topic wise discussion on current issues should be added to existing library services.
- Information and awareness building services in the areas of demand such as health and employment should be introduced and tailored to the needs of people locally, building on examples of good practice available in other countries.

6.2.6 *Improving on human perspectives*

6.2.6.1 *Improving library visibility*

- Like e-centers, all libraries need to make use of signboards/marks to reveal the infrastructure to the users.

6.2.6.2 *Enhancing comfort*

- Emphasis needs to be placed on innovative use of furniture. Traditional steel or wooden shelves and other furniture that obstruct light and air circulation need to be modified or replaced.
- In many urban libraries design modifications are needed to control noise level in order to cope with the congested and noisy urban settings of the country.

6.3 Modernizing resources

In establishing future ready libraries, it should be assumed that demand for modern equipment will rise alongside growing user demand for digital contents and greater awareness of what a modern library can provide. Strategic planning for the future will thus need to address the issue of equipment availability in the libraries seriously.

6.3.1 Knowledge resources

- For resources, diversity of subjects needs to be maintained based on community demand.
- Besides printed materials, knowledge resources in modern libraries should be made available and must come in all forms usable by a significant section of the user population e.g. e-books, audio books, CDs and DVDs, etc. Suitable hardware to access current forms of resources (e.g. tablet computers and e-book readers) should also be made available.
- Specialized resources for children and people with special needs should be included to provide an inclusive service.
- Through use of internet and remote collaboration with other libraries across the world, public libraries should allow users to access any resources available from other libraries.

6.3.2 Cultural resources

- Public libraries should include collections of music, movies and other cultural resources.
- Along with local culture, resources on global culture should also be included.

6.3.3 Resources for information services

- Libraries need to have computers, internet connections and other accessories for public use to provide information services to the community. These resources need to be upgraded and regularly maintained.
- To cater for demand from a wide variety of community members, libraries must provide infomediary services. Skilled and helpful staff has a major role to play.

6.3.4 Modern accessibility to resources

- As use of smart phone and other portable communication devices is getting very popular, library resources and services can be made available in formats that are compatible with such devices.

6.3.5 Resource availability and upgrading

- Each public library should be able to make resources readily available to the users. Any demanded material, if not available in collections, should be collected immediately.
- Resources must be regularly updated. While updating resources, global trends, popularity and community demand must be taken into account.
- Demand for existing resources must be evaluated regularly to prioritize resources with substantial demand and weed out little-used materials.

6.3.6 Resources for mood boosting

- To boost people's reading habit and interest in using other resources, libraries must encourage activities such as reading silently or aloud, formation of reading groups, and offer collaborative sessions for storytelling activities.

6.4 Capacity building

6.4.1 Training of librarians

- ICT competencies of the librarians must be improved through training. Along with pre-service training, continuous in-service training programs need to be conducted.
- Short-term staff exchange for non-government libraries may be introduced to facilitate knowledge transfer.
- Events need to be organized where experts and professionals may visit, deliver speech and share experiences. Library associations need to engage actively in the capacity building efforts.
- Traditionally, libraries in Bangladesh have not provided services to children. Hence, there is a need for training library staff with regard to assisting children in using library (BMGF, 2013; Bradley, 2013). Sufficient attention and resources need to be made available.

6.4.2 Engaging and knowledge sharing with local community

- To facilitate two-way knowledge transfer between libraries and communities, libraries need to organize community events. Participation by the members of library associations in these events will be helpful.

6.4.3 Capacity building of volunteers

- Community volunteerism to support the operation of library services needs to be promoted in the absence of a sufficient number of paid staff. Capacity building of volunteers through training needs to be ensured.

6.5 Promoting libraries

Popularizing public libraries and reaching out all segments of population with its services requires promotion and publicity of all kind of library services and positive positioning-

6.5.1 Position as “Safe space”

- Proper steps should be taken to develop a children and women safety policy to be followed by public libraries for strengthening its position as “Safe space”, drawing more people into the library.

6.5.2 Conducting promotional services

- Public libraries should include promotional activities like early literacy programs for children (children story time, children rhyme time, etc.), multicultural festivals, youth cultural events, different types of workshops, classes or training sessions, book fairs, writing or art competitions, art exhibitions, etc. Availability of such services should be promoted by the library through email, SMS, advertising in library or community notice boards or through library staff.

6.5.3 Enhancing library outreach

- In order to ensure public library’s outreach to transport- deprived people or in hard to reach areas without a library, mobile libraries (Bookmobiles, book boats, book boxes, and vans/bicycles services) or door to door libraries should be introduced where they are an appropriate solution. Book fairs should be arranged at different schools to mobilize library content. Volunteers or librarians should be sent door to door with children’s books to provide a story reading service on the spot.

6.6 Revising the governance and budget framework

6.6.1 Alternatives for managing the budget shortage

- A way of resolving the serious shortfall in library financing could be formation of consortia involving relevant government Ministries, Ministry of ICT, Ministry of Education, Ministry of Cultural Affairs, Ministry of Finance, and private organizations along with foreign donors and local and foreign NGOs working in this field to leverage budget contributions either in cash or any other relevant form.

- The partnership model of government's A2I project could be considered as a replicable model for resource mobilization in this respect.²¹

6.6.2 Establishing inter-ministry liaison within the government

- Other than resource sharing, government ministries should also maintain liaison from implementation perspectives. Proper coordination should be ensured from the government among the library relevant ministries-Ministry of Education, Ministry of Finance, Ministry of Cultural Affairs and Ministry of ICT - to avoid duplication of effort and ensure smooth implementation of planned development of public libraries.

6.6.3 Library leadership and advocacy

- Library associations of the country should take an active position in providing advocacy, leadership and all kind of support to the government, the NGOs, donors and other stakeholders for overall development of the library sector.

6.6.4 Redesigning library management

6.6.4.1 Establishing partnership in multiple dimensions

Public libraries should include a strategic direction focusing on collaboration and partnerships. Partnership can take place between the public library and other types of institutions, particularly school libraries, to provide special services such as production of Braille books for the visually impaired students and training school librarians for information literacy teaching. Within this framework, the library community may pursue mutually beneficial partnerships in the following categories:

²¹ The model of the Access to Information (A2I) project under the Prime Minister's Office can be a good example to follow in this regard and worth some illustration. A2I established a number of partnerships across government ministries and agencies, development agencies, NGOs and the private sector to leverage resources and its mobilization. For example, in order to ensure sustainability of the UISC business model, an agreement was made with Dutch-Bangla Bank Limited (DBBL), a local bank, to provide its money transfer system at UISCs. Another partnership was formed with Banglalink, owned by Orascom Telecom of Egypt, to use UISC entrepreneurs as their mobile recharge agents as well for supporting Multimedia Classrooms through distribution of computers and accessories. Similar strategic partnerships were formed with Bangladesh Association of Software and Information Services (BASIS) and Intel World Ahead programme. A2I forged partnerships with several NGOs, strategically chosen to serve the purpose of the UISCs. For example, the British Council provided a PC-based English language-training module for UISCs. Young Power in Social Action worked to sensitize the UISCs to the content need of the people with special needs. D.NET collaborated in research and content development. The International Rice Research Institute (IRRI) provided rice-related content aimed at farmers. Seizing on opportunities where synergies for specific activities existed, A2I developed partnerships with several development agencies including the ADB, the World Bank, UNESCO and UNICEF. The project also ensured in kind and cash contribution by different ministries/agencies of the government to create a complete circle of partnerships in reaching the project goals. Being established within the PMO itself played a very important role, placing the project at everyone's priority. A similar strategy of collaborative resource mobilization through objectively matching funds from multifaceted sources can be employed to revitalize the library sector.

- **Urban-Rural Intra library partnership:** Libraries of both urban and rural areas and other remote areas should form collaborative partnership to extend the updated facilities that many urban libraries enjoy.
- **Partnership with museums/archives:** Library-museum-archives partnership should be formed to support a wide variety of information needs and also to organize combined programming for richer experience of library customers.
- **GO-NGO-Commercial partnership**
 - Partnerships between local governments and public libraries should be formed to ensure the building of strong, sustainable communities.
 - Coordination at local level will help to reach out to potential new users or unreachable communities through an organization that they already trust.
 - Sponsorship and commercial partnerships should be undertaken to generate income, explore innovative revenue streams and create new opportunities.
- **Complementary Infrastructure**
 - Public libraries and e-centers can be coordinated and rationalized into a single network which will provide the opportunity for enriching resources and services and ensure a greater geographic coverage. This will also remove the apparent differences in service access and perception of use which exist between e-centers and libraries.
 - Libraries should undertake partnership with entities with offering complementary infrastructure unavailable in the existing library. For example, a local public library can partner with an arts or photography school, music school, etc.

6.6.4.2 Establishing a *central technical support system*

- ICT integration in libraries all over the country will frequently require the technical support of hardware experts and government should form a roaming technical alliance of hardware/technical experts to travel throughout the country to assist libraries reporting hardware problems.

6.6.4.3 *Service automation*

- As part of ICT integration, some of the regular library services should be automated by introducing self-service options. Self-checkout, self-checking returns, online interlibrary loan requests, online renewal, virtual reference services, virtual library

tours, online membership and such other self-services can be introduced in Bangladesh replicating such existing automated services abroad.

Annex

7.1 Detail Methodology

7.1.1 Research design

Research design (also called study design) is the plan and structure specifying the methods and procedures for collecting and analyzing data with an objective of finding solution of all research problems. This is needed because it facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible and yielding maximal information with minimal expenditure of effort, time and money (Kothari, 1970).

This study was undertaken through a multifaceted yet inter-connected research approach using various complementary methodologies to explore the information needs of the people, current capacity of the information services and potential of ICT integration to enhance the information services in Bangladesh. The approach entailed three main components in two major phases:

Main components	Exploratory Phase	National Phase
Desk research	Initiated here	Ended here
In-depth study	Initiated here	Ended here
Survey		Both initiated and ended here

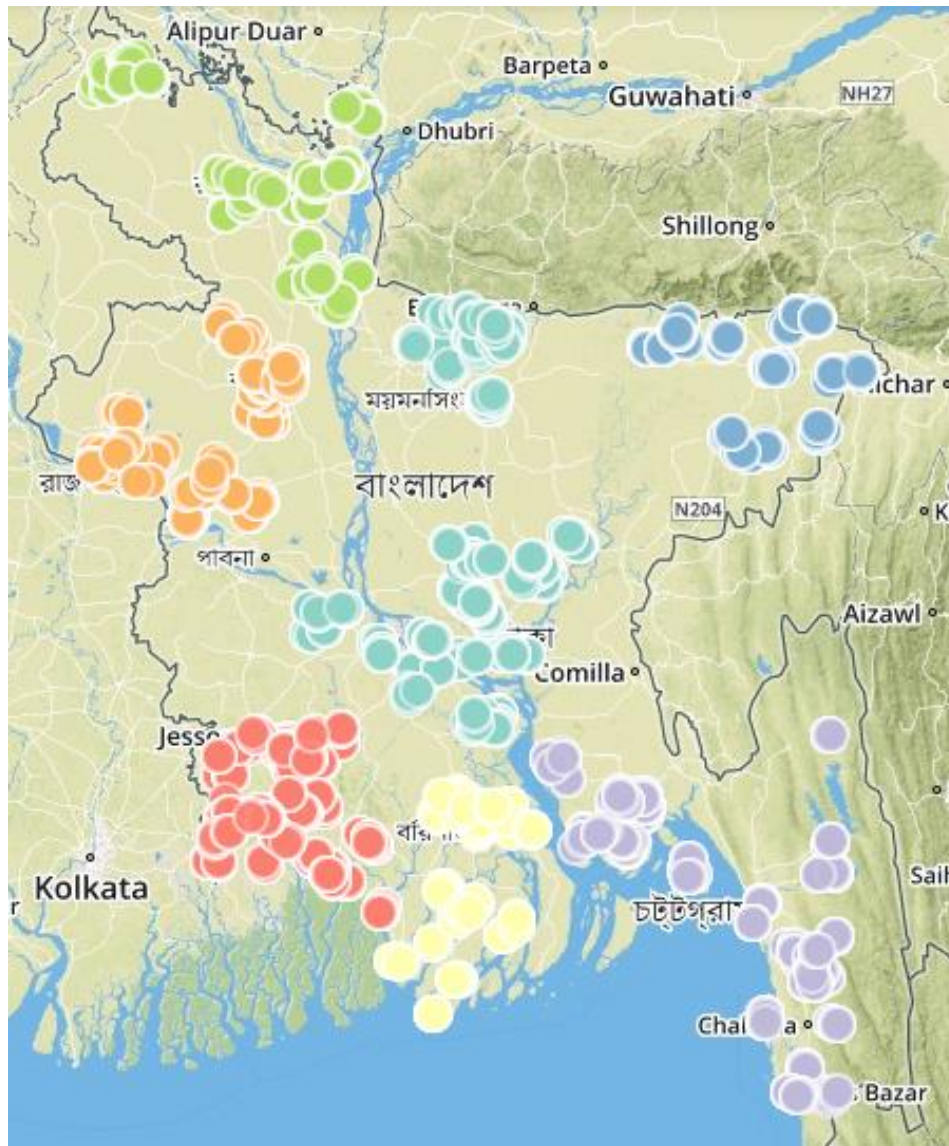
7.1.1.1 In-depth study

An in-depth study was designed as part of the exploratory phase, mainly to guide the survey component but was continued to national phase to examine in detail salient or contested aspects of library and information services (LIS). It was a combination of three other sub components: *Grounded Theory Approach* to explore information need and ways of information seeking, *Key Informant Interview (KII)* to review study design, share experts' experiences and fine tune recommendations, and *Case Study* to facilitate in-depth understandings of the LIS landscape.

7.1.1.2 Survey

To address the research questions three separate but complementary surveys with different respondent groups were conducted: *Public survey* (targeting general people), *LIS venue survey* (targeting librarians, operators, management officials and authorities of LIS), and *User-survey* (targeting people who use the LIS).

- The purpose of venue survey was to explore the infrastructures, resources, services, facilities, IT capabilities, budgetary framework of LIS in Bangladesh and necessary information about librarian, staffs and operators.
- Public survey was conducted to address public information need, their perceptions of public library facilities and services, current pattern of digital access, relationship between demographic profile and community needs, affordability of internet connectivity etc.
- To address current use of LIS in terms of access, resources and services, users demographic information, their information need and their perceptions of LIS infrastructure, facilities and services, and etc. a user survey was conducted.



7.1.1.3 Desk research

This extensive desk research was conducted -

- to explore national goals, policies and priorities of LIS;
- to compile an inventory of LIS; and
- to seek a theoretical framework for assessing the LIS landscape in view of information needs, supply-side capacity, ICT integration and future potentiality.

7.1.2 Methods and instruments of data collection

Qualitative and quantitative data were collected through a series of surveys, key informant interviews (KIIs), in-depth studies and desk research. It needs to be noted here that the proposed methodology of data collection i.e. obtaining particular data from particular stakeholders through appropriate method, will be fine-tuned through the stakeholder analysis.

7.1.2.1 Key Informant Interview (KII)

Key informant interviews are qualitative in-depth interviews. This method involves interviewing a selected group of individuals who are likely to provide needed information, ideas, and insights on a particular subject. In this method a small number of informants are interviewed and information comes directly from knowledgeable people and it provides flexibility to explore new ideas and issues that had not been anticipated in planning the study but that are relevant to its purpose (Kumar, 1989).

A total of 20 key informants were interviewed with a semi-structured interview checklist as part of the in-depth study. The key informants were academicians, national and local government officials including ministers, librarians, member of professional associations, ICT4D experts and international and local NGO officials. The purpose was to collect information from a wide range of people who have first-hand knowledge about LIS, and to understand the constraints, opportunities and potentials of existing LISs. These qualitative interviews were also focused on best practices, new service ideas and areas of improvement for the library landscape of Bangladesh.

7.1.2.2 Case Study

In-depth research or the case study method is a very popular form of qualitative analysis and involves a careful and complete observation of a social unit, be that unit a person, a family, an institution, a cultural group or even the entire community. It is a method of study in-depth rather than breadth. This method is essentially an intensive investigation of the particular unit under consideration and it deepens our perception and gives us a clear insight into life (Kothari, 1970).

Taking suggestions from the venue survey team, a number of case studies were prepared on selected LIS venues focusing on “LIS best practices”. In this study, a total of six case studies were prepared.

#	Name of case studies
1	<i>A government public library of Bangladesh</i>
2	British Council Library - a modern multipurpose library
3	EMK Center - beyond books
4	Automation in East West University Library
5	Bishwo Shahitto Kendro - taking libraries to home
6	Boat libraries - reaching the hard to reach community

7.1.2.3 Desk review/meta data analysis/review of secondary research

Desk research refers to the collection of data which has already been collected in order to solve a problem. This type of data is also known as secondary data. This research is basically involved in collecting data from existing resources. When the researcher utilizes secondary data, then he/she has to look into various sources from where he/she can obtain them. In this case he is certainly not confronted with the problems that are usually associated with the collection of original data. Secondary data may either be published data or unpublished data (Kothari 1970). Desk research is very effective and most of the basic information could be easily fetched which can be used as benchmark in the research process.

- Government usually publishes a great extent of data that can be used in the research process. The government websites are also mostly free to access and contains most prominent information. In this study governments legal and policy documents (especially from Ministry of Cultural Affairs, Directorate of Archives and Libraries, National Book Center, etc.) were reviewed.
- GIS database of public access venues were also reviewed in this study.
- There is incredible amount of data available online on internet. In this study, two approaches were used for digging out the relevant information from internet; first, directly browsing the specific information from sites and extracting the information out of those sites and second, using the search engine google for modulated searching.

Steps of desk research

The desk review process followed the following steps:

Step One: Deciding on areas of research: Before beginning search for articles or books, the research team decided beforehand what areas they are going to research. They made sure that they only get articles and books in those areas, even if they come across fascinating books in other areas.

Step Two: Search for the literature: The searching process encompassed both online and offline resources. A comprehensive bibliographic database of literature including suggested literature from the consortium members was prepared for this desk review.

Step Three: Search for relevant excerpts: The selected literature was then skimmed through with a particular focus on claims, findings, conclusions about the constructs; definition of terms, calls for follow-up studies, gaps noticed in the literature and disagreements about the constructs. A word document was produced from the relevant excerpts with rigorous documentation in a referencing software named End-note.

Step Four: Coding: The relevant excerpts were then categorized by coding and separated as per the theme. The categories were titled as theme pile.

Step Five: Creating conceptual schema: Each excerpt from a theme pile was gone through in detail to find out ideas that go together or that are in dialogue with each other followed by writing down a conceptual schema.

Step six: Writing the literature review: The review was written down as the next step.

7.1.2.4 Survey methodology

Three types of surveys were conducted in this study. These are:

1. **LIS venue survey:** The venue survey was included venue characteristics and inventory of the services/facilities, venue capacity and constraints/limitations of the venues. One venue operator or manager was selected as the respondent for that respective venue. Three types of venues were included in this survey:
 - Libraries (public libraries, NGO driven libraries like Gonokendra Pathagar of BRAC, etc.),
 - Telecenters (union information and service center, community-e-center, etc.) and
 - Cybercafés.
2. **User survey:** From each of the selected venues (except public libraries), a total of four users were selected as respondents for the user survey with approximately equal

number of male and female users. From each public library, a total of 10 users were selected as respondents. Attempts were made to maintain an equal gender division within the respondents. Demographic profile, information need, information usage, and degree of accessibility were explored in this survey.

3. **Public survey:** The public survey is representing the people who live in the vicinity of LIS venues (both user and non-users of LIS). The purpose of this survey was to explore their information need, information usage, their demographic profile and the reasons behind using LIS venues (for users) and not using LIS venues. This survey has provided a comparison between the user and non-user groups in terms of their demographic and socioeconomic profiles.

Questionnaire

Grounded theory approach was used to find the information ecology of the community. Two key analytic strategies were used in this study:

- **Coding:** Coding was used to categorize qualitative data and for describing the implications and details of these categories. Starting with loosely framed *open coding* of some initial categories, more *selective coding* of information was done systematically as observations are made.
- **Integrative diagrams:** These diagrams were used to pull all of the detail together, to help make sense of the data with respect to the emerging understanding of the information ecology.

After identifying the information ecology of the community, questionnaires for user survey, public survey and venue survey focusing the aforementioned indicators and key research questions were designed. Five set of questionnaires were used in this study for three types of survey. The questionnaires were designed to enlighten the demand and use of the information needed for the individual from different background.

Estimation of sample size

In the planning of a sample survey, a stage is always reached at which a decision must be made about the size of the sample. Too large a sample implies a waste of resources, and too small a sample diminishes the utility of the results. So the decision is important (Cochran 2007).

Sample size for infinite population: Equation(1) gives the formula of the size of the sample in the case of infinite population) (Cochran, 2007).

$$n = \frac{z^2 \times p \times (1 - p)}{e^2} \times \text{Def} \dots (1),$$

where

n = Sample size

z = 1.96 for 95% confidence level and 1.64 for 90% confidence level

p = Percentage of picking a choice

e =Margin of error

$Deff$ = Design effect

Sample size for finite population: In the case of finite population the formula is given by Equation(2) (Cochran, 2007).

$$n = \frac{z^2 \times p \times (1-p) \times N}{e^2 \times (N-1) + z^2 \times p \times (1-p)} \times Deff \dots (2),$$

where

N = Population size

Estimated sample size

In this study there were three types of respondents for all three respective surveys: people living in Bangladesh for *Public Survey*; venue manager/operator for *Venue Survey*; and users of venues for *User Survey*.

- The sample for **venue survey** was set at 451 (population size is 8,825). This sample size has produced estimates at 6% margin of error and 5% level of significance.
- Within each venue, four users were selected (except public libraries) and 10 users were selected from each public library in the **user survey**. Thus, the total number of users was 1,998. This sample size has produced estimates at 3% margin of error and 5% level of significance.
- The sample size of the **public survey** was set at 4,585, which has produced estimates at 2% margin of error and 5% level of significance.

Geographic approach: selection of districts and upazilas/thanas




In the absence of a definitive frame to drive the random selection of venues, largely due to limitations associated with the inventories of ICT driven venues, a geographic approach was adopted. The main consideration was to achieve as much regional distribution as possible because the information need, penetration of ICT and usage of venues are diverse in Bangladesh. This approach avoided the hit-and-miss elements and produced a sample as representative as possible. More specifically, the representativeness of the sample was derived from maximizing the random selection of individual venues, within randomly selected districts, *upazilas*, *paurasavas* and *unions* (urban and rural areas).

The country is divided into seven divisions which are further divided into 64 districts,²² 455 *Upazilas*²³, *Parishads*, 325 *Paurasavas* and 4,501 *Unions Parishads*. The survey was designed in a way so that it covered all divisions and as much districts as possible considering resources available. The RFP and expert consultations suggest that 50 percent districts is sufficient for the distribution of estimated sample of surveys mentioned above. The survey was implemented in all seven divisions, in 35 districts (proportionate distribution) and in 120 upazilas (3 from each district except divisional headquarters) of Bangladesh. The main strategic consideration for the selection of districts and upazilas was that the public survey was conducted in places where the venue survey was taken place. And the user survey was conducted at the selected venues.

The selection of districts from divisions and *Upazilas* from selected districts involves the following stages:

Stage 1: Selection of districts and their proportionate distribution by divisions

All 64 districts had been categorized into three types based on the number of population. The categories are as follows.

Symbol	Type of Districts	Population
	Large Districts	≥ 25,00000
	Medium Districts	< 25,00000 ≥ 15,00000
	Small Districts	< 15,00000

The following table shows that the country has 19 large, 23 medium and 22 small districts. The study was conducted in 35 districts, of which 10 districts were large, 13 were medium and 12 were small districts in terms of number of population the districts have. The number of estimated districts was randomly selected from each division. This is to be mentioned here that the seven districts (Dhaka, Khulna, Barisal, Chittagong, Sylhet, Rajshahi and Rangpur) which are the divisional headquarters, were automatically included in the selected districts, given their administrative importance and their type of venues (e.g. divisional public libraries are situated in those districts).

Country/Division	Total districts (n)					Selected districts			
	Number of districts (n)	Share (%) among divisions	Large (L)	Medium (M)	Small (S)	Sample number of districts (50% of n)	Large (L)	Medium (M)	Small (S)
Bangladesh	64	1	19	23	22	35	10	13	12

²² First tier of local government of Bangladesh

²³ Second tier of local government of Bangladesh




Share by size (%)	-	-	0.30	0.36	0.34	-	-	-	-
Dhaka	17	0.27	6	4	7	9	3	2	4
Khulna	10	0.16	1	5	4	5	1	2	2
Barisal	6	0.09	0	3	3	4	0	2	2
Chittagong	11	0.17	4	3	4	6	2	2	2
Sylhet	4	0.06	1	3	0	3	1	2	0
Rajshahi	8	0.13	5	2	1	4	2	1	1
Rangpur	8	0.13	2	3	3	4	1	2	1

Selection criteria: number of districts of divisions and size of districts (large, medium and small) in terms of population.

Stage 2: Selection of Upazilas/Thanas from the selected districts

Unlike stage 1, *upazilas/thanas* were not selected proportionately because the adjustment had been made in the previous stage. However, a certain degree of adaptation was allowed due to different geographies and venue composition, as well as peculiarities in the districts. In the districts where there is no scope for random selection (e.g. insufficient number in each category), *upazilas/thanas* were selected based on availability.

For the selection of *upazilas/thanas*, they had been categorized again into following three types:

Symbol	Type of Upazila/Thana	Population
	Large Upazila/Thana	≥ 3,00000
	Medium Upazila/Thana	< 3,00000 ≥ 2,00000
	Small Upazila/Thana	< 2,00000

Except the seven districts mentioned above (divisional headquarters), from the rest 28 districts 3 *Upazilas* were **randomly** selected: 1 large, 1 medium and 1 small *Upazilas*. In the case of Dhaka, 6 *Upazilas/thanas* were selected and from the rest six divisional headquarters 5 *Upazilas/thanas* were selected. Thus, 120 *upazilas/thanas* were selected where survey was administered; of these *upazilas/thanas*, 32 were large, 44 were medium and 44 were small *upazilas/thanas* (see the following table for details).

Country/Division	Total Upazila/Thana				Sample Upazila/Thana			
	Number of Upazilas/Thanas	Large (L)	Medium (M)	Small (S)	Sample number of Upazilas/Thanas	Large (L)	Medium (M)	Small (S)
Bangladesh	329	94	106	129	120	32	44	44

Dhaka	100	35	25	40	30	10	11	9
Khulna	41	6	16	19	17	3	8	6
Barisal	29	8	6	15	14	4	4	6
Chittagong	64	19	22	23	20	5	6	9
Sylhet	30	7	15	8	11	3	5	3
Rajshahi	36	9	12	15	14	3	4	7
Rangpur	29	10	10	9	14	4	6	4

Selected districts and upazilas:

	District/Upazila	Type (in terms of population)
Dhaka Division	Dhaka	Large
	Mirpur	<i>Large</i>
	Shahbagh Thana	<i>Small</i>
	Sher-E-Bangla Nagar	<i>Small</i>
	Sutrapur	<i>Medium</i>
	Dohar	<i>Medium</i>
	Savar	<i>Large</i>
	Gazipur	Large
	Gazipur Sadar	<i>Large</i>
	Kaliakair	<i>Large</i>
	Kaliganj	<i>Medium</i>
	Munshiganj	Small
	Gazaria	<i>Small</i>
	Munshiganj Sadar	<i>Large</i>
	Sreenagar	<i>Medium</i>
	Narsingdi	Medium
	Belabo	<i>Small</i>
	Narsingdi Sadar	<i>Large</i>
	Palash	<i>Medium</i>
	Faridpur	Medium
	Bhanga	<i>Medium</i>
	Faridpur Sadar	<i>Large</i>
	Sadarpur	<i>Small</i>
	Rajbari	Small
	Baliakandi	<i>Medium</i>
	Kalukhali	<i>Small</i>
	Rajbari Sadar	<i>Large</i>
	Shariatpur	Small
	Bhedarganj	<i>Medium</i>

	Naria	<i>Small</i>
	Shariatpur Sadar	<i>Medium</i>
	Sherpur	Small
	Nakla	<i>Small</i>
	Nalitabari	<i>Medium</i>
	Sherpur Sadar	<i>Large</i>
	Mymensingh	Large
	Dhobaura	<i>Small</i>
	Haluaghat	<i>Medium</i>
	Mymensingh Sadar	<i>Large</i>
	Total	
Khulna Division	Jessore	Large
	Abhaynagar	<i>Medium</i>
	Jhikargachha	<i>Medium</i>
	Jessore Sadar	<i>Large</i>
	Narail	Small
	Kalia	<i>Medium</i>
	Lohagara	<i>Medium</i>
	Narail Sadar	<i>Medium</i>
	Bagerhat	Small
	Bagerhat Sadar	<i>Medium</i>
	Mongla	<i>Small</i>
	Sarankhola	<i>Small</i>
	Khulna	Medium
	Daulatpur Thana	<i>Small</i>
	Khulna Sadar Thana	<i>Medium</i>
	Dacope	<i>Small</i>
	Dumuria	<i>Large</i>
	Paikgachha	<i>Medium</i>
	Satkhira	Medium
	Debhata	<i>Small</i>
	Satkhira Sadar	<i>Large</i>
	Tala	<i>Medium</i>
	Total	
Barisal Division	Barisal	Medium
	Babuganj	<i>Small</i>
	Banari Para	<i>Small</i>
	Barisal Sadar	<i>Large</i>
	Mehendiganj	<i>Large</i>

	Wazirpur	Medium
	Bhola	Medium
	Bhola Sadar	Large
	Burhanuddin	Medium
	Manpura	Small
	Barguna	Small
	Barguna Sadar	Medium
	Betagi	Small
	Patharghata	Small
	Patuakhali	Small
	Dashmina	Small
	Kala Para	Medium
	Patuakhali Sadar	Large
	Total	
Chittagong Division	Chittagong	Large
	Patenga Thana	Small
	Kotwali Thana	Large
	Lohagara	Medium
	Sandwip	Medium
	Satkania	Large
	Bandarban	Small
	Bandarban Sadar	Small
	Naikhongchhari	Small
	Thanchi	Small
	Cox's Bazar	Medium
	Chakoria	
	Cox's Bazar Sadar	Large
	Kutubdia	Small
	Teknaf	Medium
	Lakshmipur	Medium
	Lakshmipur Sadar	Large
	Roypur	Medium
	Ramganj	Medium
	Noakhali	Large
	Kabirhat	Small
	Subarnachar	Medium
	Noakhali Sadar	Large
	Rangamati	Small
	Baghaichhari	Small

	Kaptai	<i>Small</i>
	Rangamati Sadar	<i>Small</i>
	Total	
Sylhet Division	Sylhet	Large
	Beani Bazar	<i>Medium</i>
	Gowainghat	<i>Medium</i>
	Jaintiapur	<i>Small</i>
	Sylhet Sadar	<i>Large</i>
	Zakiganj	<i>Medium</i>
	Sunamganj	Medium
	Chhatak	<i>Large</i>
	Jamalganj	<i>Small</i>
	Sunamganj Sadar	<i>Medium</i>
	Maulvibazar	Medium
	Juri	<i>Small</i>
	Maulvibazar Sadar	<i>Large</i>
	Rajnagar	<i>Medium</i>
	Total	
Rajshahi Division	Rajshahi	Large
	Boalia	<i>Medium</i>
	Bagha	<i>Small</i>
	Durgapur	<i>Small</i>
	Godagari	<i>Large</i>
	Tanore	<i>Small</i>
	Bogra	Large
	Bogra Sadar	<i>Large</i>
	Kahaloo	<i>Medium</i>
	Nandigram	<i>Small</i>
	Joypurhat	Small
	Joypurhat Sadar	<i>Medium</i>
	Kalai	<i>Small</i>
	Khetlal	<i>Small</i>
	Natore	Medium
	Bagatipara	<i>Small</i>
	Baraigram	<i>Medium</i>
	Natore Sadar	<i>Large</i>
	Total	
Rangpur Division	Gaibandha	Medium
	Fulchhari	<i>Small</i>

Gaibandha Sadar	<i>Large</i>
Sadullapur	<i>Medium</i>
Kurigram	Medium
Bhurungamari	<i>Medium</i>
Kurigram Sadar	<i>Large</i>
Rajarhat	<i>Small</i>
Rangpur	Large
Badarganj	<i>Medium</i>
Kaunia	<i>Medium</i>
Rangpur Sadar	<i>Large</i>
Pirgachha	<i>Large</i>
Taraganj	<i>Small</i>
Panchagarh	Small
Atwari	<i>Small</i>
Boda	<i>Medium</i>
Panchagarh Sadar	<i>Medium</i>

LIS venue survey methodology

A total of **451 venues**, broadly **libraries** (public libraries, NGO driven libraries like Gonokenda Pathagar of BRAC, etc.), **telecenters** (union information and service center, community-e-center, etc.) and **cybercafés**, were randomly selected (with some exceptions) for this survey. They were selected proportionately to their number and their sub-types. One venue operator or manager *who is closely associated with the venue activities on a daily basis and knows different types of usage of the venue* was surveyed as the respondent from the venue. An inventory was prepared based on the existing available lists of venues from different organizations who administer the venues. All surveys were face to face and conducted by trained enumerators. The final venue sample is provided in the following table:

Type of Venues	Number of Venues
Library	136
Telecenter	277
Cybercafé	38
Grand Total	451

This sample size was produced estimates at 6% margin of error and 5% level of significance. Data were collected at the venues.

Allocation of sample venues for venue survey

As mentioned, available inventories of venues are not exhaustive and up to date. Because this was a short time research and do not have any component of preparing comprehensive inventories, it relies on the available secondary sources. The major lists which were used to calculate total number of venues are: list of Union Information and Service Centers (UISCs) from Access to Information (A2I), list of public libraries, list of BRAC's Gonokendra and list of public access venues prepared for Global Impact Study in Bangladesh. The field of ICT driven venues, particularly which do not belong to any umbrella organization, is so diverse in Bangladesh. So, it is tough to estimate total number of venues of this particular type.

The number of venues at district level is available but data with further administrative units are not available. The standard deviation is also high, so the number of respondents for each division was taken proportionately to the share of number of venues for each division.

Distribution and allocation of venues by divisions and districts

The following table shows the distribution of venues for each division. As the number of sample venues is 450, the proportionate number of venues has been allocated for each division accordingly.

Allocation of Venues for each Division				
Division	Area (sq. kilometer)	Total Number of Venues (N)	Share (%) of N	Initial Sample Distribution
Bangladesh	147,570	8,825	1	450
Dhaka	31,120	2,509	0.28	128
Khulna	22,273	1,158	0.13	59
Barisal	13,296	509	0.06	26
Chittagong	33,771	1,756	0.20	90
Sylhet	12,596	593	0.07	30
Rajshahi	18,196	1,181	0.13	60
Rangpur	16,318	1,118	0.13	57

It is important to note that number of venues in different sizes of division is disproportionate. Thus, allocation of venues for one district may not be close to another district of the same category. For allocation of venues for each district, number of venues in that district was divided by total number of venues for different sizes of selected districts in the corresponding division and then multiplied by number of allocated venues for that division.

Name of Division	#	Division/District	Distribution of Venues	Allocation of Venues
		Dhaka Division	2,509	128
Dhaka	1	Dhaka	252	25
	2	Gazipur	120	12
	3	Munshiganj	115	11
	4	Narsingdi	141	14
	5	Faridpur	148	15
	6	Rajbari	88	9
	7	Shariatpur	113	11
	8	Sherpur	98	10
	9	Mymensingh	230	23
		Total in selected districts	1,305	
		Khulna Division	1,158	59
Khulna	1	Jessore	223	18
	4	Narail	67	5
	5	Bagerhat	134	11
	6	Khulna	145	12
	7	Satkhira	156	13
		Total in selected districts	725	
		Barisal Division	509	26
Barisal	1	Barisal	168	11
	2	Bhola	71	5
	5	Barguna	52	3
	6	Patuakhali	118	7
		Total in selected districts	409	
		Chittagong Division	1,756	90
Chittagong	1	Chittagong	368	37
	2	Bandarban	47	5
	3	Cox's Bazar	120	12
	9	Lakshmipur	94	9
	10	Noakhali	164	16
	11	Rangamati	101	10

Name of Division	#	Division/District	Distribution of Venues	Allocation of Venues
		Total in selected districts	894	
		Sylhet Division	593	30
Sylhet	1	Sylhet	159	11
	2	Sunamganj	142	10
	4	Maulvibazar	143	10
		Total in selected districts	444	
		Rajshahi Division	1,181	60
Rajshahi	1	Rajshahi	188	19
	3	Bogra	207	21
	4	Joypurhat	81	8
	5	Natore	108	11
		Total in selected districts	584	
		Rangpur Division	1,118	57
Rangpur	2	Gaibandha	172	17
	4	Kurigram	137	14
	5	Rangpur	164	17
	7	Panchagarh	89	9
		Total in selected districts	562	

Distribution and allocation of venues by major types

Proportionate distribution to each selected district was not enough to ensure representativeness because it was important to include all major types of venues in the survey. Broadly, three types of venues were included in this survey: (a) Libraries (public libraries, NGO driven libraries like Gonokenda Pathagar of BRAC, etc.), (b) Telecenters (union information and service center, community-e-center, etc.) and (c) Cybercafés. Their proportionate allocation has been presented in the following table. The representation of their sub-types was also ensured.

Type of LIS	Number of LIS	Share (%)	Initial Sample Distribution
Total	8,825	1	451

Telecenter	5,425	0.61	277
Cybercafé	583	0.07	30
Library	2,817	0.32	144

The following table shows the proportionate allocation of all major types of venues based on their distribution in the districts.

Division	#	Division/ District	Distribution of Venues by District	Allocation of Venues by District	Distribution of Venues by Type			Allocation of Venues by Type		
					Telecenter	Cybercafé	Library	Telecenter	Cyber café	Library
Dhaka		Dhaka Division	2,509	128	1,462	255	792	74	19	35
	1	Dhaka	252	25	92	139	21	9	14	2
	2	Gazipur	120	12	55	11	54	5	1	5
	3	Munshiganj	115	11	79	12	24	8	1	2
	4	Narsingdi	141	14	91	9	41	9	1	4
	5	Faridpur	148	15	91	6	51	9	1	5
	6	Rajbari	88	9	51	4	33	5	0	3
	7	Shariatpur	113	11	73	8	32	7	1	3
	8	Sherpur	98	10	59	0	39	6	0	4
	9	Mymensingh	230	23	166	2	62	16	0	6
Total in selected districts			1,305		757	191	357			
Khulna		Khulna Division	1,158	59	733	12	413	37	1	21
	1	Jessore	223	18	125	4	94	10	0	8
	2	Narail	67	5	41	0	26	3	0	2
	3	Bagerhat	134	11	103	0	31	8	0	3
	4	Khulna	145	12	85	7	53	7	1	4
	5	Satkhira	156	13	98	0	58	8	0	5
Total in selected districts			725		452	11	262			
Barisal		Barisal Division	509	26	395	7	108	19	1	7
	1	Barisal	168	11	99	6	63	6	1	4
	2	Bhola	71	5	70	0	1	5	0	0
	3	Barguna	52	3	51	0	1	3	0	0
	4	Patuakhali	118	8	78	1	39	5	0	2
Total in selected districts			409		298	7	104			
Chittago ng		Chittagong Division	1,756	90	1,113	247	396	60	11	19

	1	Chittagong	368	37	251	68	49	25	7	5
	2	Bandarban	47	5	36	0	11	4	0	1
	3	Cox's Bazar	120	12	82	4	34	8	1	3
	4	Lakshmipur	94	9	65	17	12	7	2	1
	5	Noakhali	164	17	108	25	31	11	3	3
	6	Rangamati	101	10	52	0	49	5	0	5
Total in selected districts			894		594	114	186			
		Sylhet Division	593	30	392	7	194	20	1	9
Sylhet	1	Sylhet	159	11	120	4	35	8	1	2
	2	Sunamganj	142	10	100	1	41	7	0	3
	3	Maulvibazar	143	10	80	1	62	5	0	4
Total in selected districts			444		300	6	138			
		Rajshahi Division	1181	60	644	43	494	32	3	26
Rajshahi	1	Rajshahi	188	19	73	21	94	8	2	10
	2	Bogra	207	21	136	6	65	14	1	7
	3	Joypurhat	81	8	40	0	41	4	0	4
	4	Natore	108	11	57	1	50	6	0	5
Total in selected districts			584		306	28	250			
		Rangpur Division	1118	57	686	12	420	37	1	20
Rangpur	1	Gaibandha	172	17	118	1	53	12	0	5
	2	Kurigram	137	14	97	1	39	10	0	4
	3	Rangpur	164	17	93	2	69	9	1	7
	4	Panchagarh	89	9	57	0	32	6	0	3
Total in selected districts			562		365	4	193			

User survey methodology

A total of 1,998 users participated in the user survey from the selected 450 venues noted above. Four users from each venue (except public libraries) and 10 users from each public library were selected as respondents for the user survey. Attempts were made to keep the ratio of male-female users equal; however, in many places it became challenging. All surveys were face to face and conducted by trained enumerators. The final user sample is provided in the following table:

Type of Venue	Number of Venue	Number of Users	Total
Public library	33	10	330
All other venues	417	4	1668
Grand total			1,998

Demographic profile, information need, information usage, and degree of accessibility were explored in this survey.

Public survey methodology

A total of 4,585 people participated in the public survey from the 35 districts noted above. They were distributed proportionately to the number of population of the respective districts. This survey is representing the people who live in the vicinity of LIS venues (both user and non-users of LIS). The purpose of this survey was to explore their information need, information usage, their demographic profile and the reasons behind using LIS venues (for user) and not using LIS venues. This survey has provided a comparison between the user and non-user groups in terms of their demographic and socioeconomic profiles. All surveys were face to face and conducted by trained enumerators.

Allocation of respondents by division

The population data for seven divisions are presented in the following table. Population data with small geographic units are available only for 2011 Population Census. The population distribution by division is not equal (with standard deviation more than 9 million), thus number of respondents for each division was taken proportionately to the share of population for each division, which is shown in the last column of the following table.

Division	Area (sq. kilometer)	Number of Population (N)	Share (%) of N	Initial Sample Distribution
Bangladesh	1,47,570	14,40,43,697	1	4,550
Dhaka	31,120	4,74,24,418	0.33	1,498
Khulna	22,273	1,56,87,759	0.11	496
Barisal	13,296	83,25,666	0.06	263
Chittagong	33,771	2,84,23,019	0.20	898
Sylhet	12,596	99,10,219	0.07	313
Rajshahi	18,196	1,84,84,858	0.13	584
Rangpur	16,318	1,57,87,758	0.11	499

* Sampling Criteria- Number of population (N); estimated Sample Size-4,550.

Allocation of respondents by district

Division	District	Population	Type of Districts	Number of Respondents
Dhaka	1 Dhaka	1,20,43,977	L	607

	2	Gazipur	34,03,912	L	172
	3	Munshiganj	14,45,660	S	73
	4	Narsingdi	22,24,944	M	112
	5	Faridpur	19,12,969	M	96
	6	Rajbari	10,49,778	S	53
	7	Shariatpur	11,55,824	S	58
	8	Sherpur	13,58,325	S	68
	9	Mymensingh	51,10,272	L	258
	Total		2,97,05,661		1,497
Khulna	1	Jessore	27,64,547	L	148
	2	Narail	7,21,668	S	39
	3	Bagerhat	14,76,090	S	79
	4	Khulna	23,18,527	M	124
	5	Satkhira	19,85,959	M	106
	Total		92,66,791		496
Barisal	1	Barisal	23,24,310	M	94
	2	Bhola	17,76,795	M	72
	3	Barguna	8,92,781	S	36
	4	Patuakhali	15,35,854	M	62
	Total		65,29,740		264
Chittagong	1	Chittagong	76,16,352	L	435
	2	Bandarban	3,88,335	S	22
	3	Cox's Bazar	22,89,990	M	131
	4	Lakshmipur	17,29,188	M	99
	5	Noakhali	31,08,083	L	177
	6	Rangamati	5,95,979	S	34
	Total		1,57,27,927		898
Sylhet	1	Sylhet	34,34,188	L	137
	2	Sunamganj	24,67,968	M	99
	3	Maulvibazar	19,19,062	M	77
	Total		78,21,218		313
Rajshahi	1	Rajshahi	25,95,197	L	176
	2	Bogra	34,00,874	L	231
	3	Joypurhat	9,13,768	S	62
	4	Natore	17,06,673	M	116
	Total		86,16,512		585
Rangpur	1	Gaibandha	23,79,255	M	143
	2	Kurigram	20,69,273	M	124
	3	Rangpur	28,81,086	L	173

4	Panchagarh	9,87,644	S	59
Total		83,17,258		499

Period of survey data collection

Data for different components of the research were collected at different points of time during the research project. The secondary data for desk review component was also collected throughout the same period in a continual manner. Data collection for survey component was taken place from 28 February 2015 to 25 March 2015. A total of 49 people – 41 interviewers, 8 supervisors, 1 quality control officer, and 1 field coordinator– were recruited for the survey. Field staff was organized into eight teams consisting of five interviewers and one supervisor. Two teams covered Dhaka division and six teams covered other six divisions of the country.

Training of enumerators

All field staff attended a 3-day training on survey methodology (particularly instruments of data collection, subject selection strategy), using tablets and maintaining daily activity documents and ethical issues during data collection (particularly obtaining consent).

7.1.2.5 Grounded Theory Approach

Grounded theory is a qualitative research method that seeks to develop theory that is grounded in data systematically gathered and analyzed the information ecology of the community. This qualitative research was based on systematic observation of information used to undertake activities or make decisions by the community members in their daily lives. This method suggests that there should be a continuous interplay between data collection and analysis. Grounded theory approaches are becoming increasingly common in the Information System research literature because the method is extremely useful in developing context-based, process-oriented descriptions and explanations of the phenomenon (Myers and Avison 1997). Therefore, grounded theory as a reversed research methodology of other methodologies in social sciences is ecologically valid because the data are context-specific and detailed. It often provides potential for fresh, new and innovative discoveries and it can be considered to be a method which provides a tool of great value in orienting research on information behavior. This was crucial for this research to understand the information ecology of Bangladesh, particularly to explore information need and ways of information seeking. In this study, using grounded theory approach, a total of 200 purposively selected respondents were interviewed using semi-structured interview checklist in order to document their daily actions at different points of time. This approach was also for understanding their information searching behavior in seven common areas: (a) health, (b)

education, (c) communication, (d) economic development, (e) culture and leisure, (f) digital inclusion and (g) government and governance. These interviews were conducted at different points of time of the exploratory and national phase.

7.1.2.6 Online survey through social media campaign

The quantity of content-based data created every day by traditional and social media, sensors, and mobile devices provides great opportunities and unique challenges for the automatic analysis, prediction, and summarization in the era of what has been dubbed “Big Data” (Campbell, Dagli et al. 2013). Like many new information technologies, big data can bring about dramatic cost reductions, substantial improvements in the time required to perform a computing task, or new product and service offerings (Davenport and Dyché 2013). To exploit this opportunity an online survey was initiated at **Library@obhimat.com**, developed by IID. This online survey was leveraged by a social media campaign of “Library Landscape Assessment in Bangladesh”. It provided a great opportunity to collect huge metadata on one hand and specific responses, discussions and ideas in other hand.

7.1.3 Instruments of data collection

The tools or instruments of data collection of all types of methods is provided in the following table:

1. In-depth Study	
a. Grounded Theory Approach	Semi-structured interview checklist
b. KII	Semi-structured interview checklist
c. Case study	Semi-structured interview checklist
2. Survey	
a. Venue Survey	Structured questionnaire
b. User Survey	Structured questionnaire
c. Public Survey	Structured questionnaire
d. Online Survey	Structured questionnaire (online)

7.1.4 Data processing and analysis

In a research after collecting a dataset, the next step is processing, summarizing, presenting and analyzing the dataset. In this study, all these stages have been done using IBM SPSS Statistics 21.

In the processing stage, the dataset is coded, edited and classified and categorized. To represent nominal and ordinal level data, bar and pie diagrams are used in this study. Percentage is also used in nominal and ordinal level data presentation. Frequency distribution is used for condensing some variables. To summarize ratio and interval level data

mean and variance are calculated for those variables. Correlation analysis is done to find the relationship between two or more variables.

In this study, data are described using proportions with confidence intervals and means with standard deviations. Whenever statistical significance is referred to in the text, the tests employed an Adjusted Wald (for proportions) or a t-test (for means) with a 95% confidence level.

The qualitative data inputs were gone through transcription initially, and then the transcription were categorized as per focused issues, analyzed and incorporated in the main report.

7.1.5 Quality control mechanism

Quality assurance in research is the system which provides guidance and support to researchers in relation to meeting the requirements of research governance that are appropriate to their particular field. It also provides the mechanism for assuring external funders of research. The purpose of a Quality Assurance study is to assure known quality. These studies are mechanisms to assure that the research institution functions optimally.

7.1.5.1 Strategies for ensuring quality of the collected data

For ensuring quality of the data field enumerators were provided training before starting the data collection. Enumerators with satisfactory evaluation following the training were appointed for data collection. Researchers/supervisors were conducting the piloting phase of the field survey along with the enumerators and provided assistance as and when necessary.

7.1.5.2 Quality control of field data and monitoring

Field supervisor was monitoring the data quality of the enumerators. They were responsible for routine field visits on daily basis. They provided technical support and observed some interviews conducted by the field enumerators.

7.1.5.3 Levels of quality control

Field data were cross checked by the field supervisor. Then field data were filtered to the researchers. If any confusion was arisen, the researchers of IID contacted with the respondent for clarification of the response. Thus quality was checked in different levels of the data collection and analyzing process.

7.1.5.4 Effective collection of the qualitative data

The qualitative portion of the collected data was monitored for quality data collection. Field enumerators were also received training on quality interviewing techniques by experienced professionals.

7.1.6 Ethical consideration

Respondent rights were strictly maintained throughout the survey. Their consent for participating in the survey, making them aware of the survey and its purpose, confidentiality of their identity and response, conducting the survey at their comfortable time and venue, and privacy during the interview process were ensured.

7.1.7 Research constraints/ limitations/ risks

During the research study some difficulties were encountered. Those are:

7.1.7.1 Heterogeneous status of LIS

One of the main objectives of this study is to assess the current status and capacity of public libraries and information services in Bangladesh and to know what type of services a multipurpose library has in prospective of Bangladesh. In our country public libraries provide only book services. There exist various types of telecenter, cybercafé, e-center and UISC for internet and information services, each of which has unique procedure of giving services. Variation also exists in users' demand. In short, we can say, the types of services in library, e-center, telecenter, UISC, cybercafé etc. are not homogeneous. To know about the services a multipurpose library should provide, data have been collected from different public libraries (community development library, district public library, gono-kendro pathagar, etc.) and telecenters (UISC, cybercafé, etc.) around the country and recommendation has been placed on that basis.

7.1.7.2 Unawareness of available information sector and information sources

Another main objective is to explore the need of information of the people of Bangladesh. Two types of challenges have been faced in this object. First, people are not aware of the availability of information on certain topics and second, they do not know where to get information. To meet these challenges three approaches were applied:

- I. Public survey has been conducted to know information on the specific subjects.
- II. Grounded theory approach has been applied to know the daily activities and different type of needs of general people.

- III. Information demand is different among the people of different occupations. To know about this variation, qualitative data have been gathered from people of different occupations.

7.1.7.3 Rural, urban and suburban areas are not homogeneous cluster

In this study, data have been collected from urban, rural and sub-urban areas under nation-wide survey. These areas were selected based on the information collected from BBS Population Census Report 2011. But based on the geographical diversification, these areas are not well defined, so heterogeneity exists among them. The demand of information of the people living in these areas and the LIS status of these areas are different. To escape this limitation, geo-spatial survey has been conducted in this study. GPS location of every respondent and every LIS has been tracked. Thus data mapping has been made easier. In future, collected data can be used if it is necessary to establish a new LIS of an area or to renovate any existing LIS.

7.1.7.4 Socio-political issues

Ongoing political unrest was one of the big challenges of this study. Hartals and blockade disrupted people's everyday life. The number of users in library, telecenter, UISC and cyber-café was fewer than before. During data collection, respondents were asked to provide information about the condition before political unrests to escape the limitation.

7.2 People's information need: findings from grounded theory approach

a. People's regular activities indicating need for related information

List of occupations	People's regular activates by major category					
	Education	Health	Employment	Daily necessary	Financial service	Entertainment
Service	Books and other purchase, fees, institution (school, college, etc.) search ,tutor search, admission, result search, exam registration	Look for hospital/doctor, purchase medicine, family planning advice	Land buy and sale, business information, employment search, apply for job, income tax payment, agriculture info seeking, land tax payment, business license, land registration, cultivate information, and vehicle license	Purchase daily necessities, purchase home electronics, purchase mobile, purchase furniture	General banking, Insurance policy, savings, new bank account open, loan from bank and NGO Bill payment, other financial info seeking	Watching TV/ listening music, vacation or trip, go to cultural events, reading books, visit relatives/friends, watching video on mobile, cinema hall, go to park, reading magazines
Business	School or college fees, books and other purchase, institution	Look for hospital/doctor, purchase medicine, family planning advice, look for	Business information, business license, land buy and sale, cultivate related information, land	Purchase daily necessities, purchase furniture, purchase home electronics (TV, freeze, fan, etc.),	General banking, loan from bank, savings, account open, insurance, loan	Watching TV/ listening music, vacation or trip, go to cultural events, go to park, visit

List of occupations	People's regular activates by major category					
	Education	Health	Employment	Daily necessary	Financial service	Entertainment
	hunt, admission, result search, tutor search, study online, and go to library, exam registration	health advice from non-doctor	tax payment, employment search	mobile purchase, purchase solar power	from NGO, bill payment and other financial info seeking	relatives/friends, reading books
Farmer	Books and others purchase, school and college fees, institution hunt, go to library, admission, result search, tutor search	Look for hospital/doctor, purchase medicine, look for health advice from non-doctor	Land buy and sale, land tax payment, business information, land registration, income tax pay, cultivation related information	Purchase daily necessities, purchase furniture, purchase home electronics (TV, freeze, Fan, etc.) and purchase solar power	Loan from bank, savings, loan from NGO, general banking, insurance, account open, bill payment, other financial info seeking	Watching TV/ listening music, go to vacation or trip, go to cultural events, visit relatives/friends, go to cinema hall

List of occupations	People's regular activities by major category					
	Education	Health	Employment	Daily necessary	Financial service	Entertainment
Poultry farming, Animal Husbandry and fisheries	Books and others purchase, school or college fees, institutions (school, college, etc.) hunt and admission	Look for hospital/doctor, purchase medicine, family planning advice	Business information, land buy and sale, land registration, cultivate related information, land tax payment, income tax payment, employment search, business license	Purchase daily necessities, purchase furniture, purchase home electronics and mobile phone	General banking, savings, loan from bank, new account open, insurance, loan from NGO	Vacation or trip, watch TV/ listen music, go to cultural events, read books, visit relatives/friends
Skilled professionals	Books and others purchase, school or college fees, institution hunt, admission, result search	Look for hospital/doctor, purchase medicine, family planning advice, look for health advice from non-doctor	Business information, land buy and sale, land tax payment, income tax payment, employment search, business license, land registration, passport	Purchase daily necessities, furniture, home electronics and mobile phone	Savings, general banking, loan from NGO and bank, bill payment, insurance and account opening	Watch TV/ listen music, vacation or trip, go to cultural events, visit relatives/friends, go to park, internet browsing

List of occupations	People's regular activities by major category					
	Education	Health	Employment	Daily necessary	Financial service	Entertainment
Shopkeepers	Books and others purchase, fees, admission, institution hunt, exam registration, result search.	Look for hospital/doctor, purchase medicine, family planning advice, look for health advice/non doctor	Business information, land buy and sale, agriculture info seeking, business license, land registration, apply for job	Purchase daily necessities, furniture, home electronics and mobile purchase	General banking, savings, loan from bank and NGO, account open, Insurance	Watch TV/ listen music, vacation or trip, go to cultural events, go to cinema hall, go to park, visit relatives/friends
Transport worker	Books and others purchase, fees, institution hunt, admission, result search, tutor search	Look for hospital/doctor, purchase medicine, family planning advice	Land buy and sale, vehicle license, business information, employment search income tax pay	Purchase daily necessities, furniture, mobile phone, home electronics and motor cycle/vehicle	Savings, loan from bank, insurance, account open, general banking, loan from NGO, other financial info seeking	Watch TV/ listen music, vacation trip, go to cultural events, go to cinema hall, go to park, visit relatives/friends
Day laborer	Fees, books and others purchase, institution hunt, admission	Look for hospital/doctor, purchase medicine, family planning advice and look for health advice from non-doctor	Business information, land buy and sale, land tax, income tax pay, employment search	Purchase daily necessities, home electronics, furniture and mobile phone	Insurance, general banking, loan from bank and NGO, savings, account open	Watch TV/ listen music, vacation or trip, go to cultural events, visit relatives/friends, go to park

List of occupations	People's regular activities by major category					
	Education	Health	Employment	Daily necessary	Financial service	Entertainment
Student	Books and others purchase, exam registration, fees, result search, institution hunt, tutor search, study online, admission	Look for hospital/doctor, purchase medicine	Employment search, apply for a job, land buy and sale, agriculture info seeking, vehicle license	Purchase daily necessities, home electronics, mobile phone, furniture, motor cycle/vehicle	Account open, general banking, Insurance, savings	Watch TV/ listen music, vacation or trip, go to cultural events, read books and magazines, go to cinema hall, go to park, sports, internet browsing
Housewife	Books and others purchase, school and college fees, institution hunt, admission	Look for hospital/doctor, purchase medicine, family planning advice, look for health advice from non-doctor	Land buy and sale, business information, income tax payment, employment search	Purchase daily necessities, furniture and home electronics	Savings, loan from NGO, general banking, loan from bank, Insurance	Watch TV/ listen music, vacation or trip, go to cultural events, visit relatives/friends, go to park, reading books and magazines

b. People's future plan and related information need

List of occupations	People's future plan by major category					
	Education	Health	Employment	Daily Shopping/ Purchase	Financial service	Entertainment
Service	Higher study, better institution, educate children, establish a library, private tutor or better teacher	Better doctor, better hospital, better healthcare or better medicine	Land buy and sale, employment search or apply or upgrade, business development, agriculture related information or technology seek, business license, one-stop/online info service	New home electronics, Purchase furniture, purchase new technology, new Mobile purchase, better price or quality, motor cycle or vehicle purchase	Savings account or increase savings, Account open, Loan from bank, Insurance and other financial info seeking	Vacation or trip, Watch TV or listen music, go to or arrange cultural events, go to cinema hall, establish a library
Business	Higher study, better institution, online or mobile study, educate children, admit to vocational.	Better doctor, better healthcare/ better medicine, better hospital	Business development, land buy and sale, employment search or apply or upgrade, one-stop or online info service, work abroad	New home electronics, purchase furniture, new/ better mobile purchase, motor cycle/vehicle purchase, one-stop service, better price or quality	General banking, loan from bank, savings, account open, insurance, loan from NGO, bill payment and other financial info seeking	Savings/ increase savings, account open, loan from bank, insurance
Farmer	Better institution, higher study, educate	Better hospital, better doctor,	Land buy and sale, business development, land registration, training,	Better price or quality, new home electronics, purchase furniture, new mobile purchase, one-stop	Account open, loan from bank, insurance, savings	Vacation trip, watch TV, entertainment on mobile

List of occupations	People's future plan by major category					
	Education	Health	Employment	Daily Shopping/ Purchase	Financial service	Entertainment
	children or private tutor	better healthcare	livelihood information, tax information	service, better access to market		
Poultry farming, Domestic animal farming and fisheries	Better institution, higher study, educate children, establish institution	Better hospital, better doctor, better medicine	Business development, land buy, agriculture information and one-stop or online information service	New home electronics, better price/quality, purchase furniture, new mobile purchase	Loan from bank, savings/ increase savings, insurance, account open, loan from NGO, other financial info seeking	Vacation trip, go to cultural events, read books, entertainment on mobile or laptop
Skilled professionals	Better institution, higher study, educate children	Better hospital, better healthcare, better medicine, better doctor	Business development, employment search/apply/upgrade, land buy and sale, work abroad, tax information	New home electronics, purchase furniture, better price/quality, new mobile purchase, better access to market	Account open, savings/ increase savings, insurance, loan from bank, bill payment	Vacation trip, go to/arrange cultural events, entertainment on mobile/laptop/pc
Shopkeepers	Better institution, higher study, educate children, private tutor	Better doctor, better hospital and better healthcare	Business development, land buy and sale, employment search/apply/upgrade, livelihood info	New home electronics, better price or quality, purchase furniture, online shopping	Savings/ increase savings, insurance, loan from bank, other financial info seeking	Go to vacation, read books

List of occupations	People's future plan by major category					
	Education	Health	Employment	Daily Shopping/ Purchase	Financial service	Entertainment
Transport worker	Better institution, educate children, higher study	Better doctor, better hospital or better healthcare/ better medicine	Land buy and sale, business development, vehicle license, land registration, business license, employment search/apply/upgrade and one-stop/online info service	New home electronics, better price or quality, purchase new mobile, furniture	Account open, savings, loan from bank, insurance, mobile banking, other financial info seeking	Vacation trip, go to cultural events, watch TV/ listen music, go to park, visit relatives/friends, entertainment on mobile/laptop/pc
Day laborer	Better institution, higher study and educate children	Better doctor, better healthcare or better medicine and better hospital	Land buy and sale, business development	New home electronics, purchase new mobile, furniture, better price or quality, motor cycle/vehicle purchase	Loan from bank, account open, insurance, savings	Watch TV/ listen music, vacation trip, visit relatives/friends, entertainment on mobile/laptop/pc
Student	Higher study, private tutor, better institution, online/mobile study, establish library	Better doctor, better healthcare or better medicine, better hospital	Employment search/apply/upgrade, land buy and sale, business development and business license	New home electronics, better price or quality, purchase new technology, new mobile and furniture purchase, one-stop service	Account open, savings, insurance, mobile banking	Vacation trip, go to or arrange cultural events, participate in competition, entertainment on mobile/laptop/pc, cinema hall, read magazines

List of occupations	People's future plan by major category					
	Education	Health	Employment	Daily Shopping/ Purchase	Financial service	Entertainment
Housewife	Better institution, higher study, educate children, private tutor	Better doctor, better hospital and better healthcare or medicine	Land buy and sale	Better price/quality, purchase furniture, new home electronics, purchase new technology, purchase solar power	Savings/ increase savings, insurance, account open, loan from bank and NGO	Vacation trip, visit relatives/friends

Bibliography

- Aabø, S. (2005). Valuing the benefits of public libraries. *Information Economics and Policy*, 17(2), 175-198.
- Aabø, S., & Audunson, R. (2012). Use of library space and the library as place. *Library & Information Science Research*, 34(2), 138-149.
- Aabø, S., Audunson, R., & Vårheim, A. (2010). How do public libraries function as meeting places? *Library & Information Science Research*, 32(1), 16-26.
- Aabø, S., & Strand, J. (2004). Public library valuation, nonuse values, and altruistic motivations. *Library & Information Science Research*, 26(3), 351-372.
- Adebayo, O. (2012). Information as an economic resource: The role of public libraries in Nigeria. *Chinese Librarianship: an International Electronic Journal*.
- Agboola, S., Samuel, O., Bolanle, H., & Austin, T. (2013). AN ASSESSMENT OF INFORMATION NEEDS AND CHARACTERISTICS OF USERS OF OYO STATE PUBLIC LIBRARY, NIGERIA.
- Ahamed, S. (2013). A Rapid Assessment of the Access to Information (A2I) Programme IID Research Report (pp. 47). Dhaka: Institute of Informatics and Development.
- Ahmed, S. (1998). Library automation in Bangladesh: problems and prospects. *Bangladesh Journal of Library & Information Science*, 1, 1.
- Ahmed, S., Munshi, M. N. U., & Ahmed, M. U. (1997). Computerisation of Libraries in Bangladesh.
- Ahmed, S. Z. (2010). Measuring performance and impact of rural community-led library initiatives in Thailand. *Information development*, 26(1), 17-35.
- Aina, L .O. 2004 Library and information science text for Africa. Ibadan: Third World Information services Limited.
- Alam, M. S. (2012). Digitization and Developing Digital Library and Information Support in Bangladesh: Professional Challenges. *Bangladesh Journal of Library and Information Science*, 2(1), 57-66.
- Anonymous. (2011-12). Current Trends of Library automation in Bangladesh: A study of some selected academic libraries and special libraries.
- Ari, K., & Ingrid, B. (May, 2014). Beyond Access: Bangladesh Assesment Report.
- Ariyabandu, R. (2009). Role of telecentres as knowledge networks: successes and challenges. Information and Communication Technology and Disaster Risk Reduction Division, United Nations ESCAP, United Nations Building, Rajdamnern Nok Avenue, Bangkok, 10200.
- Arms, W. Y., Januszewski, A., Matthews, J. R., Harris, L. E., Weinberg, G. M., Brown, J. S., . . . Peters, T. A. (2002). Assessing Digital Library Services.
- Arshad, M. (2006). Shidhulai Swanirvar Sangstha: Bringing Information Technology to Rural Bangladesh by Boat. Washington, DC.

- Audunson, R., Essmat, S., & Aabø, S. (2011). Public libraries: A meeting place for immigrant women? *Library & Information Science Research*, 33(3), 220-227.
- Audunson, R. A., Vårheim, A., Aabø, S., & Holm, E. D. (2007). Public libraries, social capital, and low intensive meeting places.
- Aziz, M., & Binte, T. (2014). An examination of library anxiety among students at Dhaka University.
- Bandyopadhyay, R., & Majumder, K. (2012). Organising Traditional Knowledge for Inclusive Development: Role of Libraries. *Bangladesh Journal of Library and Information Science*, 2(1), 5-11.
- Bell, D. (1973). *The Coming of Post Industrial Society: A Venture in Social Forecasting* Basic Books. New York.
- Best, M. L., & Maclay, C. M. (2000). Community Internet access in rural areas: Solving the economic sustainability puzzle.
- Bhandari, H., & Yasunobu, K. (2009). What is social capital? A comprehensive review of the concept. *Asian Journal of Social Science*, 37(3), 480-510.
- Biswas, B. C., & Choudhuri, S. K. (2012). Digital Information Resources for Disaster Management of Libraries and Information Centres. *Bangladesh Journal of Library and Information Science*, 2, 12-21.
- Black, A. (2011). 'We don't do public libraries like we used to': Attitudes to public library buildings in the UK at the start of the 21st century. *Journal of Librarianship and Information Science*, 43(1), 30-45.
- BMGF. (2013). *Measuring the Shared Impact of Public Libraries: The Global libraries Initiative's Common Impact Measurement System*.
- Bradley, F. (2013). *Building Strong Library Associations*.
- Bryan, A. I. (1952). *The public librarian: a report of the public library inquiry*: Columbia University Press.
- Bundy, A. (2005). The modern public library: the very best investment your community can make.
- Byrne, A. (2004). Libraries and democracy-management implications. *Library management*, 25(1/2), 11-16.
- Cabe, & Resource. (2003). *Better public libraries*. London: Cabe and Resource.
- Carol, T. (2003). *Use and Users of Electronic Library Resources: An Overview and Analysis of Recent Research Studies*.
- Casey, M. E., & Savastinuk, L. C. (2006). Service for the next-generation library. *Library journal*, 131(1), 40-42.
- Chepesiuk, R. (2003). Bangladesh's Frustrated Librarians. *American Libraries*, 28-30.

- Chiu, C.-M., Hsu, M.-H., & Wang, E. T. G. (2006). Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems*, 42(3), 1872-1888. doi: <http://dx.doi.org/10.1016/j.dss.2006.04.001>
- Chowdhury, G., Poulter, A., & McMenemy, D. (2006). Public Library 2.0: towards a new mission for public libraries as a “network of community knowledge”. *Online Information Review*, 30(4), 454-460.
- Chowdhury, M., Uddin, N., Afroz, H., & Sameni, A. H. (2011). Building Institutional Repositories in Bangladesh Using Dspace: A New Paradigm of Scholarly Communication.
- Choy, F. C. (2007). Libraries and librarians—what next? *Library management*, 28(3), 112-124.
- Cochran, W. G. (2007). *Sampling techniques*: John Wiley & Sons.
- Colle, R. D. (2005). Memo to telecenter planners. *The Electronic Journal of Information Systems in Developing Countries*, 21.
- Colle, R. D., & Roman, R. (2001). Challenges in the telecentre movement. *Journal of Development Communication*, 2(2), 1-11.
- Connaway, L. S., Dickey, T. J., & Radford, M. L. (2011). “If it is too inconvenient I'm not going after it:” Convenience as a critical factor in information-seeking behaviors. *Library & Information Science Research*, 33(3), 179-190. doi: <http://dx.doi.org/10.1016/j.lisr.2010.12.002>
- Coravu, R. (2010, 3 June - 5 June 2010). Library Spaces: New Values, New Functions. Paper presented at the BIBLIO 2010: Innovation within libraries, Brasov, Romania.
- Crandall, M., Fisher, K. E., & Landry, C. Communities Connect Network: Advancing e-Inclusion in Washington State through Community Technology.
- Dilevko, J., & Gottlieb, L. (2004). The evolution of library and museum partnerships: historical antecedents, contemporary manifestations, and future directions: Libraries Unlimited.
- Edwards, B. W. (2011). Sustainability as a driving force in contemporary library design. *Library trends*, 60(1), 190-214.
- Erickson, B. H. (2001). Good networks and good jobs: The value of social capital to employers and employees. *Social capital: Theory and research*, 127-158.
- Ferguson, S. (2012). Are public libraries developers of social capital? A review of their contribution and attempts to demonstrate it. *The Australian library journal*, 61(1), 22-33.
- Fernandez, J. (2009). A SWOT analysis for social media in libraries. *Online*, 33(5), 35-37.
- Forsyth, E. (2005). Public libraries and the millennium development goals. *IFLA journal*, 31(4), 315-323.
- Fox, H. (2005). An investigation into political and professional attitudes regarding commercialised models of service provision in public libraries: University of Sheffield, Sheffield.

- Fraser, B. T., Nelson, T. W., & McClure, C. R. (2002). Describing the economic impacts and benefits of Florida public libraries: Findings and methodological applications for future work. *Library & Information Science Research*, 24(3), 211-233.
- Freeman, G. T. (2005). "The Library as Place: Changes in Learning Patterns, Collections, Technology, and Use", *Library as Place: Rethinking Roles, Rethinking Space* Council on Library and Information Resources, Washington, DC., 1-9.
- Freeman, G. T., Bennett, S., Demas, S., Frischer, B., Peterson, C. A., & Oliver, K. B. (2005). *Library as place: Rethinking roles, rethinking space: Council on Library and Information Resources* Washington, DC.
- Fried, S., Kochanowicz, M., & Chiranov, M. (2010). Planning for impact, assessing for sustainability. *Performance Measurement and Metrics*, 11(1), 56-74.
- Gilchrist, V. J. (1992). Key informant interviews.
- Gill, P. (2001). *The public library service: IFLA/UNESCO guidelines for development* (Vol. 97): NBD Biblion Publishers.
- Gomez, R. (2012). Users' Perceptions of the Impact of Public Access Computing in Colombia: Libraries, Telecenters and Cybercafés. *Information Technologies & International Development*, 8(3), pp. 19-33.
- Gould, E., & Gomez, R. (2009). New challenges for libraries in the information age: A comparative study of ICT in public libraries in 25 countries.
- Gould, E., & Gomez, R. (2010). New challenges for libraries in the information age: A comparative study of ICT in public libraries in 25 countries. *Information development*, 26(2), 166-176.
- Goulding, A. (2009). Engaging with community engagement: public libraries and citizen involvement. *New Library World*, 110(1/2), 37-51.
- Griffis, M. (2011). Space, power and the public library: a multicase examination of the public library as organized space.
- Grimes, J., Manjarrez, C. A., Miller, K. A., Owens, T., Swan, D. W., Vese Jr, R. D., . . . Freeman, M. (2013). *Public Libraries in the United States Survey: Fiscal Year 2010 Public Library Survey*. USA: Institute of Museum and Library Services.
- Haberl, V., & Wortman, B. (2012). Getting the picture: Interviews and photo elicitation at Edmonton Public Library. *LIBRES: Library & Information Science Research Electronic Journal*, 22(2), 1-20.
- Haseloff, A. M. (2005). Cybercafés and their potential as community development tools in India. *The Journal of Community Informatics*, 1(3).
- Hastings, K., & Tennant, R. (1996). How to build a digital librarian. *D-Lib Magazine*, 2(11), 12-20.

- Healy, T., & Côté, S. (2001). *The Well-Being of Nations: The Role of Human and Social Capital. Education and Skills*: ERIC.
- Heitzman, J. (1990). Information systems and development in the Third World. *Information Processing & Management*, 26(4), 489-502.
- Hellen, N. (2009). *Libraries for the Future: An International Perspective*.
- Hema, C. (2014). The Concept of Space, with Reference to the Evolution of Library Spaces from Traditional to Digital – A philosophical perspective.
- Holt, R. M. (1987). Trends in Public Library Buildings. *Library trends*, 36(2), 267-285.
- Hong, K.-S., Ridzuan, A. A., & Kuek, M.-K. (2003). Students' attitudes toward the use of the Internet for learning: A study at a university in Malaysia. *Educational Technology & Society*, 6(2), 45-49.
- Hong, W., Thong, J. Y., Wong, W.-M., & Tam, K. Y. (2002). Determinants of user acceptance of digital libraries: an empirical examination of individual differences and system characteristics. *J. of Management Information Systems*, 18(3), 97-124.
- Hooghe, M., & Oser, J. (2015). Internet, Television and Social Capital: The effect of screen time on social capital. *Information, Communication & Society*, 18.
- Hoq, K. M. G. (2012). Role of information for rural development in Bangladesh: a sector-wise review. *Information development*, 28(1), 13-21.
- Hossain, A., & Islam, S. (2012). Information needs of rural women: a study of three villages of Bangladesh.
- Hossain, M. J., & Ahmed, S. Z. (2013). Developing a service performance assessment system to improve service quality of academic libraries. *Business Information Review*, 30(4), 210-221.
- IFLA (2003). *Guidelines for Children's Libraries Services*, IFLA: Edinburgh.
- IFLA, & UNESCO. (1994). *Public Library Manifesto, 1994. IFLA Internet Manifesto*.
- Imholz, S., & Arns, J. W. (2007). Worth their weight: an assessment of the evolving field of library evaluation. *Public Library Quarterly*, 26(3-4), 31-48.
- International Federation of Library Association's Guidelines for Children's Libraries Services. . International Federation of Library Associations.
- Iqbal, A., & Abed, R. Development through Public Access to ICTs: Challenges and Policy Priorities IID Policy Brief Agenda. Dhaka: Institute of Informatics and Development.
- Iqbal, A., & Abed, R. (2014). Development through public access to ICTS: challenges and policy priorities.
- Islam, A., & Panda, K. (2009). IT in special libraries in Bangladesh: a case study. *The Electronic library*, 27(1), 149-161.
- Islam, A., & Rahman, A. (2006). Growth and development of information and communication technologies in Bangladesh. *The Electronic library*, 24(2), 135-146.

- Islam, M. A., Ikeda, M., & Islam, M. M. (2013). Knowledge sharing behaviour influences A study of Information Science and Library Management faculties in Bangladesh. *IFLA journal*, 39(3), 221-234.
- Islam, M. A., & Mezbah-ul-Islam, M. (2000). Concepts, issues and importance of library consortium: Problems and prospects of university library consortium in Bangladesh. University of Dhaka: Bangladesh.
- Islam, M. S. (2006). Status of rural library and information services in Bangladesh: directions for the development. *The Social Sciences*, 1(1), 15-21.
- Islam, M. S., & Ahmed, S. Z. (2012). The information needs and information-seeking behaviour of rural dwellers A review of research. *IFLA journal*, 38(2), 137-147.
- Islam, M. S., & Islam, M. N. (2007). Use of ICT in libraries: An empirical study of selected libraries in Bangladesh. *Library Philosophy and Practice (e-journal)*, 143.
- Islam, R., & Mohd, M. (2012). Present Status of Library Cooperation, Networking, and Resource Sharing in Bangladesh: Web-based Library Cooperation for Access to World-wide Information.
- Islam, R. M. M. (2013). Present Status of Library Cooperation, Networking, and Resource Sharing in Bangladesh: Web-based Library Cooperation for Access to World-wide Information. *Library Philosophy and Practice (e-journal)*(881).
- Islam, S. (2011). Towards digitization: problems and prospects for the libraries of Bangladesh.
- Islam, S., & Zayed Ahmed, S. (2012). Rural library services II: An empirical assessment of information provision in rural communities in northern districts of Bangladesh. *New Library World*, 113(7/8), 364-384.
- Iwhiwhu, B. E., & Eyekpegba, E. O. (2009). Digitization of Nigerian university libraries: from technology challenges to effective information delivery. *The Electronic library*, 27(3), 529-536.
- Jaeger, P. T., Bertot, J. C., Kodama, C. M., Katz, S. M., & DeCoster, E. J. (2011). Describing and measuring the value of public libraries: The growth of the Internet and the evolution of library value. *First Monday*, 16(11).
- Japzon, A. C., & Gong, H. (2005). "A Neighborhood Analysis of Public Library Use in New York City". *The Library* 75(4).
- Jochumsen, H., Hvenegaard Rasmussen, C., & Skot-Hansen, D. (2012). The four spaces-a new model for the public library. *New Library World*, 113(11/12), 586-597.
- Johnson, C. A. (2010). Do public libraries contribute to social capital?: A preliminary investigation into the relationship. *Library & Information Science Research*, 32(2), 147-155.

- Johnson, C. A. (2012). How do public libraries create social capital? An analysis of interactions between library staff and patrons. *Library & Information Science Research*, 34(1), 52-62.
- Jones, M., Harwood, W., Buchanan, G., & Lalmas, M. (2007). Storybank: an indian village community digital library. Paper presented at the Proceedings of the 7th ACM/IEEE-CS joint conference on Digital libraries.
- Kate Boyd-Byrnes, M., & Rosenthal, M. (2005). Remote access revisited: disintermediation and its discontents. *The Journal of academic librarianship*, 31(3), 216-224.
- Katsirikou, A. (2013). *Qualitative and Quantitative Methods in Libraries*.
- Kaula, P. (1986). Towards resource sharing in libraries. *Planning in library resource sharing*, 1-15.
- Kaur, H., & Sharda, P. (2010). Role of technological innovations in improving library services. *International Journal of Library and Information Science*, 2(2), 001-016.
- Ke, H.-R., Chen, T.-T., & Cheng, W.-N. Library as Place and her Contribution to Social Capital.
- Keller, M., Reich, V., & Herkovic, A. (2003). What is a library anymore, anyway? *First Monday*, 8(5).
- Khan, M. (1984). Public libraries in Bangladesh. *International library review*, 16(2), 125-141.
- Kinney, B. (2010). The Internet, public libraries, and the digital divide. *Public Library Quarterly*, 29(2), 104-161.
- Koenig, M. E. (1998). From Intellectual Capital to Knowledge Management. What are They Talking About? *Inspel*, 32(4), 222-233.
- Koontz, C. M. (1992). "Public Library Site Evaluation and Location: Past and Present Market-Based Modeling Tools for the Future." *Library and Information Science Research* 14: 379-409.
- Koontz, C., & Gubbin, B. (2010). *IFLA public library service guidelines (Vol. 147)*: Walter de Gruyter.
- Korupp, S. E., & Szydluk, M. (2005). Causes and trends of the digital divide. *European Sociological Review*, 21(4), 409-422.
- Kothari, C. (1970). *Research methodology*: New Delhi: Vishwa Prakashan Limited.
- Kuhlthau, C. C. (1991). Inside the search process: Information seeking from the user's perspective. *JASIS*, 42(5), 361-371.
- Kumar, K. (1989). *Conducting key informant interviews in developing countries*: Agency for International Development Washington DC.
- Kuny, T., & Cleveland, G. (1998). The digital library: myths and challenges. *IFLA journal*, 24, 107-113.
- Lamberton, D. M. (1985, January). *Information Sector Analysis: Some International Comparisons*. In *Proceedings of the 48th ASIS Meeting*.

- Latimer, K. (2011). Collections to connections: changing spaces and new challenges in academic library buildings. *Library trends*, 60(1), 112-133.
- Lisa M. Givena, & Leckie, G. J. (2003). "Sweeping" the library: Mapping the social activity space of the public library. *Library & Information Science Research*(25), 365–385
- Liu, Z. (2005). Reading behavior in the digital environment: Changes in reading behavior over the past ten years. *Journal of Documentation*, 61(6), 700-712.
- Lushington, N. (2008). Libraries designed for kids: Facet.
- Mainka, A., Hartmann, S., Orszulok, L., Peters, I., Stallmann, A., & Stock, W. G. (2013). Public libraries in the knowledge society: Core services of libraries in informational world cities. *Libri*, 63(4), 295-319.
- Mandarano, L., Meenar, M., & Steins, C. (2010). Building social capital in the digital age of civic engagement. *Journal of Planning Literature*, 25(2), 123-135.
- Manjarrez, C. A. (2007). Making cities stronger: Public library contributions to local economic development.
- Mannan, S., & Bose, M. L. (1998). Resource sharing and information networking of libraries in Bangladesh: a study on user satisfaction. *Malaysian Journal of Library & Information Science*, 3(2), 67-86.
- Martha, K. (2013). Changing User Needs and Expectations of Library Users
- Martin, A. B. (1972). A Strategy for Public Library Change: Proposed Public Library Goals--Feasibility Study.
- McCabe, G. B., & Kennedy, J. R. (2003). Planning the modern public library building: Libraries Unlimited.
- McCabe, G. B., & Kennedy, J. R. (2003). Planning The Modern Public Library Building (G. B. McCabe & J. R. Kennedy. Eds.). United States of America: LIBRARIES UNLIMITED.
- McNamara, C. (1997), *Field Guide to Leadership and Supervision in Business*, Authenticity Consulting, LLC.
- Miidla, P., & Kikas, K. (2009). The efficiency of Estonian central public libraries. *Performance Measurement and Metrics*, 10(1), 49-58.
- Miller, P. (2006). Library 2.0: The challenge of disruptive innovation.
- Minges, M., Kimura, K., Beschoner, N., Davies, R., & Zhang, G. (2014). Information and Communications in the Chinese Countryside: A Study of Three Provinces: World Bank Publications.
- Mokhtar, M. (April 2012). Preparing New Era Librarians and Information Professionals: Trends and Issues. *International Journal of Humanities and Social Science*, 2, 151-156.
- Monroe, M. E. (1974). Evaluation of public services for adults. *Library trends*, 22(3), 337-359.
- Most, L. R. (2011). THE RURAL PUBLIC LIBRARY AS PLACE: A THEORETICAL ANALYSIS.

- Mostert, B. (2001). African public library systems: a literature survey. *Electronic Journal ISSN*, 1058, 6768.
- Munshi, M., & Ahmed, S. (2000). Status of library automation in Bangladesh: an overview of some existing problems and solutions. *Social Science Review*, 17(2), 227-236.
- Munshi, M. N. (2003). *Library Automation in Bangladesh: The Dhaka University Library Experiences*.
- Nasir Uddin, M., Quaddus, M., & Islam, S. (2006). Socio-economic-cultural aspects and mass information need: The case of public library uses in Bangladesh. *Library management*, 27(9), 636-652.
- Nonaka, I., & Konno, N. (2005). The concept of “Ba”: building a foundation for knowledge creation. *Knowledge management: critical perspectives on business and management*, 2(3), 53.
- Nwagha, G.K. (1992). Information needs of rural women in Nigeria. *Information development*, 8(2), 76-82.
- Obokoh, N. P., & Arokoyu, S. B. (1991). “The Influence of Geographical Location on Public Library Use: A Case Study from a Developing Country.” *Bulletin of the Special Libraries Association Geography and Map Division* 163: 30–42.
- Passarelli, B. (2014). *Digital Inclusion Program AcesaSP and the development of digital literacies among elderly population: a case study*.
- Ping, W., Shang, H., & Zhenmeng, W. (2013). Chinese Public Library Services for Vulnerable Groups. *Chinese Librarianship*(35).
- Posey, J. A. (2009). *Student Perceptions and Expectations of Library Services Quality and User Satisfaction at Walters State Community College _ A dissertation presented to. East Tennessee State University*.
- Prabha, C., Silipigni Connaway, L., Olszewski, L., & Jenkins, L. R. (2007). What is enough? Satisficing information needs. *Journal of Documentation*, 63(1), 74-89.
- Putnam, R. D. (2004). *Better together: Restoring the American community*: Simon and Schuster.
- Rafiq, M., & Ameen, K. (2009). Issues and lessons learned in open source software adoption in Pakistani libraries. *Electronic Library, The*, 27(4), 601-610.
- Rahman, M. A., Nahar, M., & Akhter, R. (2006). Resource sharing, networking and library consortia: problem and prospects in Bangladesh.
- Rahman, M. Z. (2012). Digital Libraries in the New Millennium. *Bangladesh Journal of Library and Information Science*, 2(1), 103-112.
- Raju, J. (2014). Knowledge and skills for the digital era academic library. *The Journal of academic librarianship*, 40(2), 163-170.

- Rangaswamy, N. (2008). Telecenters and Internet Cafés: The Case of ICTs in Small Businesses Asian Journal of Communication, 365-378
- Rashid, M. A., Khan, A. A., & Ferdush, M. (2010). Rural Women in Information Communication System: Problems and prospects in view of digital Bangladesh. World Journal of Management, 2(2), 118-129.
- Resnick, P. (2001). Beyond bowling together: Sociotechnical capital. HCI in the New Millennium(77), 247-272.
- Roknuzzaman, M. (2006). A survey of Internet access in a large public university in Bangladesh. international journal of education and development using ICT, 2(3).
- Rooney-Browne, C., & McMenemy, D. (2010). Public libraries as impartial spaces in a consumer society: possible, plausible, desirable? New Library World, 111(11/12), 455-467.
- Roshidul, H., Shefaul, I., Sayedur, R. M., & Jewel, K. N. A. (2009). Farmers access to information for agricultural development in Bangladesh. Bangladesh Research Publications Journal 2(1), 319-331.
- Sachs, D. E., Eckel, E. J., & Langan, K. A. (2011). Striking a balance: Effective use of Facebook in an academic library. Internet Reference Services Quarterly, 16(1-2), 35-54.
- Savenije, B. (2011). Libraries in the information society: cooperation and identity. Libraries and society: role, responsibility and future in an age of change, 203-218.
- Schöpfel, J. (2012). The global library. Challenges of modern technologies: The competitive advantage of library services, 39-51.
- Sciacchitano, B., Cerwinski, C., Brown, I., Sampat, M., Lee, J. C., & McCrickard, D. S. (2006). Intelligent library navigation using location-aware systems: the Newman project. Paper presented at the Proceedings of the 44th annual Southeast regional conference.
- Scrogam, R. E. (2006). The American public library and its fragile future. New Library World, 107(1/2), 7-15.
- Serwar, H. (1983). The Development of Libraries for Education in Bangladesh.
- Sey, A., & Fellows, M. (2009). Literature review on the impact of public access to information and communication technologies. Center for Information and Society.
- Shokeen, A., & Kushik, S. (2002). Information seeking behaviour of social scientists of Haryana universities. Library Herald, 40(1), 8-11.
- Shuva, N. Z., & Akter, R. (2012). Status of non-government public libraries in Bangladesh. Eastern Librarian, 23(1), 91-104.
- Siddike, A. K., Munshi, N., & Sayeed, A. (2011). The Adoption of Information and Communication Technology (ICT) in the University Libraries of Bangladesh: An Exploratory Study.

- Siddike, M., Kalam, A., Umemoto, K., & Kohda, Y. (2014). Transformation of Public Libraries: Co-creation of Values at Multipurpose Community Learning Centers. Paper presented at the Advanced Applied Informatics (IIAIAI), 2014 IIAI 3rd International Conference on.
- Smolyaninova, O. G., Turanova, L. M., & Pozhidaeva, O. A. (2011). The Role of Electronic Library in the Informatization of Modern Education. *Journal of Siberian Federal University. Humanities & Social Sciences*, 3(4), 385-391.
- Syeed Ahamed, MD. Ashiq Iqbal, Ashiqun Nabi, Gopal Kumar Dey, Rezwana Abed, & Kazi Shudipto Amin. (2013). Public Access Venues for ICTs: Connecting People for Bangladesh's Development
- TAF, & MBAPF. (2014). Myanmar Library Survey: A comprehensive study of the country's public libraries and information needs. Myanmar.
- Tymon, W. G., & Stumpf, S. A. (2003). Social capital in the success of knowledge workers. *Career Development International*, 8(1), 12-20.
- Uhegbu, A. N. (2001). Deterrents to information service for community development. *Library Review*, 50(5), 237-242. doi: doi:10.1108/00242530110394493
- V. Shah, N. K., R. Lance Holbert, Dhavan. (2001). "Connecting" and "disconnecting" with civic life: Patterns of Internet use and the production of social capital. *Political communication*, 18(2), 141-162.
- Vakkari, P., & Serola, S. (2012). Perceived outcomes of public libraries. *Library & Information Science Research*, 34(1), 37-44.
- Vårheim, A. (2007). Social capital and public libraries: The need for research. *Library & Information Science Research*, 29(3), 416-428.
- Vårheim, A. (2009). Public libraries: places creating social capital? *Library Hi Tech*, 27(3), 372-381.
- Vårheim, A., Steinmo, S., & Ide, E. (2008). Do libraries matter? Public libraries and the creation of social capital. *Journal of Documentation*, 64(6), 877-892.
- Wagner, G. S. (1992). Public libraries as agents of communication: A semiotic analysis: Scarecrow Press.
- WALES, S. L. O. N. S. (2012). PEOPLE PLACES: A GUIDE FOR PUBLIC LIBRARY BUILDINGS IN NEW SOUTH WALE (3 ed.).
- Wan, G. (2011). How academic libraries reach users on Facebook. *College & Undergraduate Libraries*, 18(4), 307-318.
- Wasko, M. M., & Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS quarterly*, 35-57.
- Webster, P. (2006). Introduction to Library Trends 54 (3) Winter 2006: Library Resource Sharing Networks.

- Wellman, B., Haase, A. Q., Witte, J., & Hampton, K. (2001). Does the Internet increase, decrease, or supplement social capital? Social networks, participation, and community commitment. *American behavioral scientist*, 45(3), 436-455.
- WILSON, T. D. (1981). ON USER STUDIES AND INFORMATION NEEDS. *Journal of Documentation*, 37(1), 3-15. doi: doi:10.1108/eb026702
- Wilson, T. D. (1994). Information needs and uses: fifty years of progress. *Fifty years of information progress: A Journal of Documentation review*, 15-51.
- Wilson, T. D. (2000). Human information behavior. *Informing science*, 3(2), 49-56.
- Withers, F. N. (1974). *Standards For library service: an international survey*: The Unesco Press Paris.
- Witten, I. H., Loots, M., Trujillo, M. F., & Bainbridge, D. (2001, May). The Promise of Digital Libraries in Developing Countries. *Communications of the ACM CACM Homepage archive* 44, 82-85.
- Wooden, R. A. (2006). The future of public libraries in an Internet age. *National Civic Review*, 95(4), 3-7.
- Worpole, K., & Futures, B. (2004). *21st Century Libraries: Changing Forms, Changing Futures: Building Futures*.
- Yarrow, A., Clubb, B., & Draper, J.-L. (2008). Public libraries, archives and museums: Trends in collaboration and cooperation: International Federation of Library Associations and Institutions The Hague.
- Yates, F. (2014). Beyond Library Space and Place: Creating a Culture of Community Engagement Through Library Partnerships. *Indiana Libraries*, 33(2), 53-57.
- Zabed Ahmed, S. (2014). The use of IT-based information services: An investigation into the current status of public university libraries in Bangladesh. *Program: electronic library and information systems*, 48(2), 167-184.
- Zaman Shuva, N. (2005). Implementing information and communication technology in public libraries of Bangladesh*. *The International information & library review*, 37(3), 159-168.
- Zaman Shuva, N. (2014). Are university libraries in Bangladesh ready to be digital? *OCLC Systems & Services: International digital library perspectives*, 30(2), 108-131.
- Zickuhr, K., Rainie, L., Purcell, K., & Duggan, M. (2013). *How Americans value public libraries in their communities*. Pew Research Center, Washington, DC.

Find more about the study at
www.obhimat.com/lis



Strategic Partners



Research Partner

