The (unknown) role of map librarian and the challenges faced in satisfying the cartographic user needs

Pushpamala Perera*

Introduction

Cartographic materials are very important in research, planning and resource development. Maps and atlases have been used as valuable tools by professionals and politicians. Creating and developing process of maps has a long and venerable history Printing and publishing process is closely related with library collection development. Due to the development of numerous printing methods, development of production of maps also has increased. Robinson and Sale describe how the development of map collection was established in Great Alexandria in Egypt. Robinson & Sale (1969)

History of map Libraries

Though maps have long history map libraries were established only after the World War 2. Millions of maps made for military purposes had to be stored in a place where they can be traced back easily. As a result of vast output of topographic and resource maps and development of cartographic institutions, geological surveys developed collections of maps were developed in libraries during the period of 1950s and 1960s. This made way to have close links with map producers, geographers and depositories. In 1960s major professional cartographic societies were established and map libraries were built-up under the special library category. Instant growth of map libraries in Britain, Netherlands and other European countries could be seen as a result of maintaining depositors. Most of the Asian and European countries collections were developed with legal depositories and at that time the professionals were of the opinion that maps should be stored under a special department. This view made to have map collections under the special library category.

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*Librarian, Sri Lanka Institute of Information Technology Pushpamala.p@sliit.lk

Map librarians

In 1960s professional cartographic societies were established and under this a group of strong map curators emerged. In Canada Association of Map libraries was established in 1967. In USA map librarianship was formed within the special library association. In other parts of the world active map curator's circle were established. The International Federation of Library Association (IFLA) also supports the development of map collection and took the responsibility of compiling the World Directory of map collections. Parry & Perkins (2001)

In 1970s Manual of Map Librarianship was formed. This provides useful information about collection and gives guidance and advice for map curators. By 1980 the American library association launched a Map & Geography Roundtable, which gave firm recognition to the title of map librarianship

For better management of the map collection, various types of cataloguing and classification schemes were adopted. Starting with the home grown cataloguing & Classification schemes, some libraries adopted the system used by the American Geographical Society and some used Ministry of Defense's 'Parsons' classification system (1978) or the system introduced by the Royal Geographical Society. Eventually most libraries settled with the library of congress classification Schedule "G". By this time most of the cataloguing rules had been established with AACR2 Stibbe (1982)

In 1980 the cooperative online cataloguing was initiated and maps in printed form were replaced or replicated by data in digital form and in media such as magnetic tape, floppy or hard disk, CD ROM and even in the Internet. Parry & Perkins (2000)

By the end of 1980s the problems related to Map Librarianship, such as selection of suitable storage facilities for maps, problems in conservation, selection and acquisitions were discussed and tackled in Winch's International Maps & Atlases in print. (1974-1976) and Perry & Perkins World Mapping Today (1987-2000). Parry & Perkins (1987)

Decline and new beginning of map libraries

During the period of 1980-1990 importance of map libraries were not much recognized and this period could be considered as a decline period of both paper based map production and map collections. This decline was due to the postwar dilemma in mapmaking and usage of maps was also diminished. Map industry itself was in decline as the result of decline in production. The link between geographers and map publishers were low. Collections were neglected and funds were re routed for new priorities such as provision of computers that comes from map producers and cartographic organizers who have become fully digital and commercial. Cobb (1979)

The rise and fall of map libraries were discussed by Wisharad (1997). Wisharad describes the fall of four major map library organizations in USA and Canada since 1992. Many of the publications produced by these societies were distributed in digital form through email-based newsletters, e-lists servers, bulletin boards and through web portals. Present mapping and map library practice is very actively functioning through MAPS-L @uga.cc.uga.edu (Maps and Air Photos System forum). Jenifer Stone Muilenburg, who discussed the changing role of GIS in the Map Room, i.e., how Geographic Information System (GIS) affect the Map libraries. She discussed the different type of technologies used in new GIS systems and the different type of collections which has to be taken in to consideration by the librarians and related services that could be offered in relation to digital data rather than with hardcopy traditional mapping. Muilenburg (2001)

Michael Pertoson (2001) who discussed about maps and the Internet says that map librarian definitely has a different role to play in the days of cyberspace and map libraries could function as map portals to the World Wide Web. The important message he gives through this article is that these new opportunities will increase the demand of map libraries and the map librarians will have a future role to play in collaborative information visualization. So the death of the traditional map library that occurred due to the developing of technology and McGlammy (1994) says that technological evolution make the “greening” of map libraries.

Rebirth of the profession of map librarian

The Map librarian's profession and the technological changes that have occurred during this period did not happened in an equal manner. Development of skills of map librarians and curators also did not occur in such fast manner. During this period the impact of technology has affected all parts of cartography, including the library service activities.

Therefore map curators also had to change accordingly. Muilenburg (2001) discussed how the map librarian's role should be transformed to GIS librarian. Muilenburg says that when describing a map librarian's job profile, in addition to basic library experience he/she should have the skills in GIS software such as Arch View, Arch Info and Map Info., and its is necessary to have experience in sever management web skills remote sensing, visual basic, related database use, programming and windows NT and UNIX Muilenburg (2001). When analyzing this situation one can not underestimate the changing environment of a map library and its professional status.

Map users and user needs

When looking at the usage of maps and the community of map users, it shows an increase since 18th century to date. Map use and the user habits have also changed in accordance with the map collection and the usage of technology. According to the research finding of map user's habits, it reveals that there is no age limit for map usage and only the literary level of users that matters in reading maps. Smits Jan (2000) The coordination between the map librarian and the user is always based with interaction and it is called as a "reference interview". The important factor here is unlike reference users in a general library map librarian is unable to pre-evaluate the needs of map users as they vary from each enquire. According to Marley Carol (2001) when assessing the information needs, the prime factor is to understand the type of users who come to a map library seeking information.

Digital data and modern map user

There is a vast different in the practical usage between a traditional map library and the usage of 21st century map collection. Fairbairn (2001) This usage can vary from general browsing to a highly specific focus enquiry. Map produces have opened up the path to users to obtain digital data through their productions using different types of software. Most GIS packages are designed for users to access them very easily and to integrate with their home PCs. Though in the early stages a high level of expert assistance was needed to read, download or copy maps, later these packages improved the user interface to make the operation much easier and user friendly. Cassettari Seppe (1993)

According to the Fairbairn the 21st century map user is highly skilled user. Map use makes them rely on data integration, combining archival with contemporary sources, thematic overlay with topographic base, point locations with background Ariel or Satellite images and the knowledge of handling database management system such as GIS. Hence most of the time these map users may expect the map librarians to be competent to fulfill their tasks using these technologies for viewing, downloading analyzing and adding values. Librarian merely becomes conduit actor between service provider and the end user. Users expect the librarian to be an intermediary between the technology and them. Libraries without walls are libraries with new walls- technologically bounded, legally restricted and administratively hamstrung. kuny & Cleveland (1988)

Sri Lankan scenario

Though Sri Lanka has a long history for maps and map production, no research has been carried out in Sri Lanka with regard to the Map collections in Sri Lankan libraries or the cartographic needs of users. Only two articles could be found in the Journal of Sri *Lank**a*** Library Review. The first article was authored by Noel Fernando and it focuses the value of maps and importance of establishing a map library in Sri Lanka and the second article was by the author[18]. Fernando points out that even though the Survey Department of Sri Lanka (established in 1800) is recognized as the principal agency for cartographic material in the Island with long history. Its role is to store and preserve the collection for archival purpose only. He was of the view that the Survey Department of

Sri Lanka could play an important role as the national focal point of all Cartographic collections. Fernando (1997)

The earliest map of the Island could be recognized as Island of Taprobane authored by Claudius Ptolemy. National Atlas of Sri Lanka (1988) After forming the Survey Department in 1800 and the Training Institute for Surveyors at Diyathatlawa, map production, collection and the demand for maps were expanded. Most of the libraries were seen with developing collections of maps. Libraries had to make arrangements to organize their collection to satisfy the needs of users. This made development of collection and development of user community for maps in libraries

To analyse this situation that is to evaluate the map collections and the cartographic user needs, a preliminary survey was carried out by the author to identify libraries which have collections of Maps and the user community attached to academic and special libraries. At the end of the preliminary survey it was identified that 8 Academic libraries and 35 Special libraries have a collection of maps (more than 50 maps in a library).

Methodology used

After identifying the user population the second phase of the survey was made to collect the relevant data. Two types of questionnaires were used. One for the librarians or for the persons who handle and serve for the users and the other for the users who are attached to the institutions and use their respective libraries. Though attempt was made to get detail information about the type size and the subject etc. of the map collection, it was aimed to discuss the problems in organizing the map libraries, use of technology, attitudes of the map Librarians and how the technological skills are used to cater the special kind of users.

Levels of organization of cartographic collection

If the collection is organized there will be organized retrieval system. Organized collection helps users to retrieve information in a productive manner. This study revealed that 62% of the map collections in libraries are organized. Out of that 27% are using

computerized system and in that 37% are using the popular library software package CDS/ISIS. This package has been used to catalogue maps.

When analyzing the problems related to organizing the map collection it revealed that lack of skilled staff was a major problem in special libraries. In Academic libraries lack of funds was the major problem. Organising the collection it self will not provide a quality service. Therefore in this study resources were analyzed under two categories:

- Physical and
- Human resources.

When analyzing the strength of physical resources, the study revealed that 69% of libraries do not have any allocation of funds in the annual budget to purchase maps. Books and journals get more priority in the budget allocation.

With respect to human resources this study revealed that 95% of Librarians/Managers have advance degrees, mainly Masters Degree in library science. Out of them 77% of them have undergone training on managing cartographic materials. 43% had training in GIS systems.

Services provided by the librarians

The problem face by the users in accessing the map collection was analyzed. 61% of libraries /map centres which come under this study have closed access system. 50%of map libraries restrict access to use maps while other 50% do not have any restrictions. Most of the libraries give privileges to the users of the organization itself than to outsiders (such as copying, extracting, using data etc.).

77% of libraries involved in this study do not refer their users to other libraries if the cartographic resources are not available in their library with them. This reveals that map users were treated differently according to their membership. This shows the cartographic information is not easily accessible. A user is expected to clarify his/her identity and justify the purpose of using the cartographic information before hand.

User survey

This user survey revealed that users were competent enough in using technology based cartographic materials. 99% of the respondents were professionals and when considering information seeking pattern of the users for cartographic materials 22% out of the total user population is non users of libraries. Librarians were not as competent when compared to users. This made a gap between the requirements of users and service provided by the librarians.

This user survey revealed that 48% of users had not received or asked for any assistance from librarians. Out this 57% of the users were of the opinion that they could handle information by themselves without any assistance of a librarian. 24% of users stated that they do not have confidence in the capabilities of the librarians to handle special tools related to maps.19% of users had stated that libraries were not equipped with modern technology to handle new cartographic information sources. But when considering the paper based maps 50% of the users have mentioned that they received assistance from the librarians when handling paper based maps. Most users had access to digital data not from a library but from their own work places.

This survey revealed that there are restrictions to access cartographic information due to the administrative policies of the institutions and most of the librarians were of the view that the barriers makes unnecessary delays when catering to the users. But the users' attitude towards these barriers looks positive 58% of the users were in view that access barriers protect valuable information from being misused in illegal manner. 90% of the users concerned about accessing the map collection online.

Attitudes of the librarians and users

With the development of new technology librarians and information professionals were the most affected. With the dawn of new millennium librarians had to learn and adopt themselves to machine era to survive in the field. In the same way map production and the profession of cartography also rapidly change with technology. When the sophisticated techniques were used for map production users of these maps also had to adopt themselves to handle them. Hence the map producers, users and librarians had to change their attitudes towards the changing technologies.

When analyzing the attitudes and suggestions of the users it revealed that 21%users are more in favour of having online map collection and 16% of the users were in favour of having National Union catalogue of maps. Librarians were asked to record their attitudes towards the computerization of map collection. 53% out of the total population stated that they have no immediate plans to automate the cartographic collection. Inadequate staff and the size of the collection were reasons given for that. When inquire about the contributions of the librarians in building up of a National Union Catalogue, 49% of the respondents were very supportive towards this and 40% said that they will contribute after organizing their collection

Unknown role of map librarianship

This study revealed that there are map users and map librarians but map libraries are neither called as map libraries nor map librarians are called as map librarians. The librarians who deal with maps are doing a silent service to this special category of users. Further it revealed that there is a high caliber user community around for cartographic collection and the libraries and librarians who were involved in this field had to learn more and develop further to be on par with the users. Traditional map libraries should turn into information centres and librarians should develop their information science skills pertaining to cartographic materials and have link with the other map librarians in the world. Then the learning and serving opportunities will be increased and the importance of map libraries and map users would be duly recognized. Librarians should have more opportunities to learn about GIS programmes and of different type of databases related to cartography. IFLA conducts programme for map librarians under the section of “Geography and Map Libraries” and it organizes paper presentations, seminars and workshops for map librarians. The librarians who are involved with maps should get opportunities to participate in these programmes and open their professionalism to match with the world trends.

Conclusion

There should be a National organization to authorized map production and have standards. But according to this study there are 9 institutions apart from the Survey Department, which produce maps. Maintaining standards and accuracy of data are very important in map making. Obtaining International Standard Number for Cartographic material is also another important step to be taken by the National Organization. With systematic databases for cartographic material map libraries can be developed further in future. Librarians who are involved in this field should take further steps to join with other international map librarian's organizations and show that they have special kind of skills to deal with maps and there by get due recognition as Map librarianship

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