LIBRARIES@75:

Journey of Libraries towards Knowledge Resource Centers

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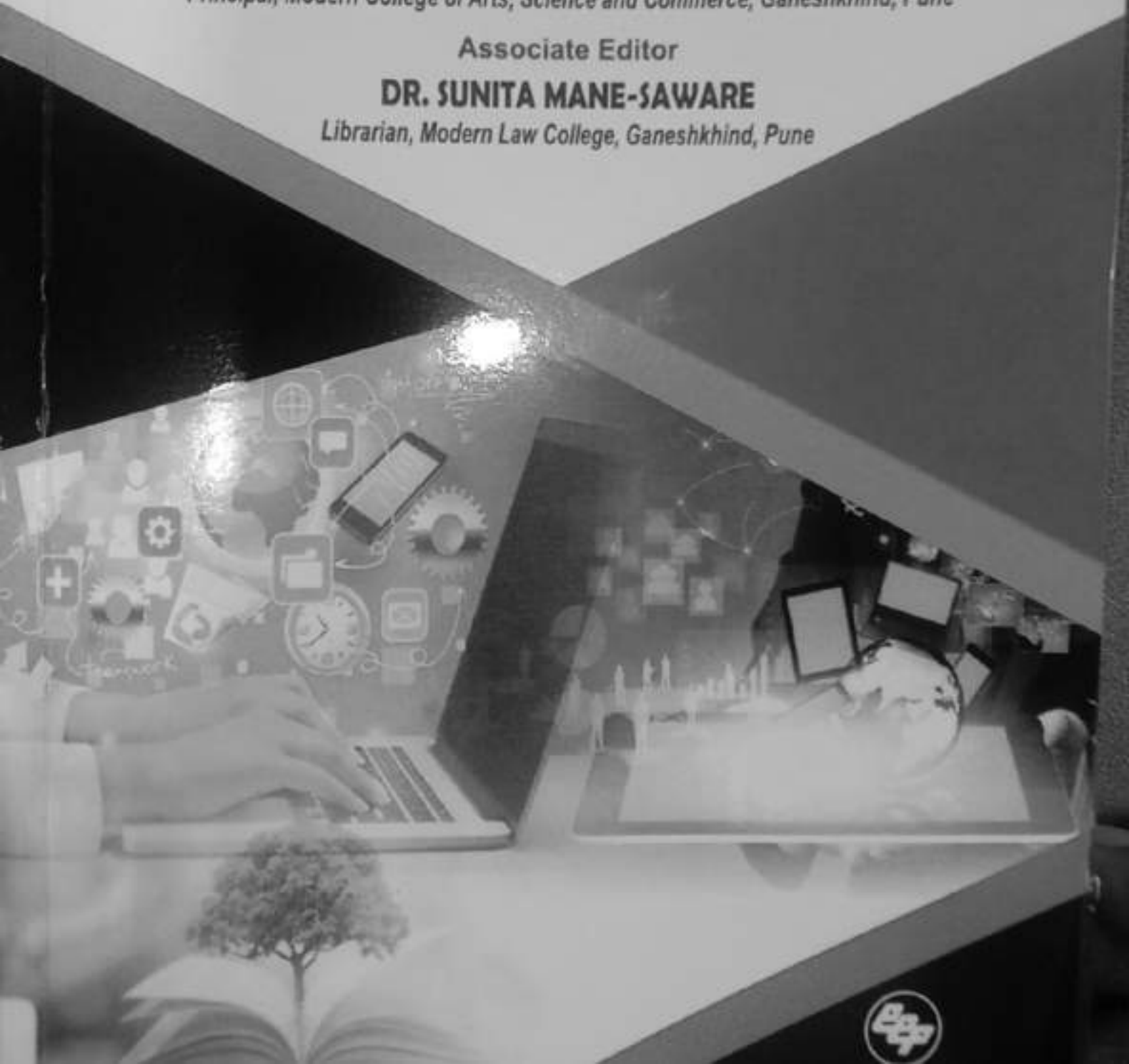

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Library Infrastructure and Services for Persons with Disabilities

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ABSTRACT

In this article, researchers reviewed the physical infrastructure services and information services necessary to be provided by the library to students with disabilities. The design of the library should be accessible to all types of readers so that the reading materials in the library are easily accessible even to the physically challenged. Just like ordinary students, teachers and disabled readers also wish to read the materials. Special services should be given to blind readers as the problems of blind readers are different from those of other disabled readers. Researchers have considered the initial nature and current library services. Along with advancements in information the nature of library infrastructure and services needs to be changed to suit the requirements of persons with disabilities infrastructure of the library must be suitable to provide more library services to the physically challenged. The use of technology in libraries is constantly changing the types, and formats of reading materials incorporating corresponding changes in library services.

This article highlights the infrastructural facilities suitable for providing effective library services to suitable for readers with disabilities.

Keyword : Visually Impaired, Library Services, Library Infrastructure, Person with Disabilities, Screen Reading Software

1. INTRODUCTION

A library is a source of information. Every person in society needs information for various reasons. Every person who is learning something needs the information to increase their knowledge. According to the new education policy 2020 inclusive education has been adopted to provide services in the education sector to all types of students. As per the provision made in RPWD 2016, instructions have given to take action to provide education to children with disabilities. According to NEP 2020 "Children with disabilities shall be provided with special assistive devices and appropriate technology-based tools as well as adequate and linguistically appropriate teaching-learning materials to facilitate their inclusion in the classroom and their participation with teachers and co-principals".[1] According to this provision, every educational institution is responsible for providing all educational services to disabled students. This service also includes library services. Now it is necessary to change the nature of library services from traditional to modern for providing services to disabled students. While providing the traditional information resources in the library to disabled readers, library faces many types of technical problems. Thus the traditional library cannot provide its services effectively to the disabled especially the visually impaired. Modern libraries can provide information in accessible format to the disabled through e-resources. For this, libraries can use assistive technology to create information in accessible format and convey it to disabled readers. Currently many libraries are using this method to convey information to the readers presently the format of information is both printed and electronic. But readers with disabilities seem to be accessing information in electronic format more. E-Resources are the most useful information tool for people with disabilities. The use of information technology has made e-resources easily accessible to disabled readers. It has become easy to extend library services to all kinds of readers. An

attempt has been made in this entire article to provide information about what types of services can be provided to the disabled using modern technology.

2. AN OVERVIEW OF MOVEMENT FOR HANDICAPPED IN INDIA

In the last 75 years in India, various facilities provided for disabled people. Since independence, many laws and regulations created for the advancement of disabled people. The following laws and regulations made for the disabled in India at present.

2.1. Laws and regulations for the disabled in India

1. Rehabilitation Council of India Act, 1992
2. The Act replaces the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995
3. National Trust Act, 1999
4. "Rights of Persons with Disabilities Act, 2016
5. Mental Health care Act, 2017
6. National Education Policy, 2020

2.2. Programs/Initiatives for the differently abled in India

In the last 75 years, some programs / initiatives for the differently abled in India have run since independence.

- **Accessible India Campaign:** Creation of Accessible Environment for PwDs
- A nation-wide flagship campaign for achieving universal accessibility that will enable persons with disabilities to gain access for equal opportunity and live independently and participate fully in all aspects of life in an inclusive society.
- The campaign targets at enhancing the accessibility of

built environment, transport system and Information & communication ecosystem.

- **DeenDayal Disabled Rehabilitation Scheme:** Under the scheme financial assistance is provided to NGOs for providing various services to Persons with Disabilities, like special schools, vocational training centers, community based rehabilitation, pre-school and early intervention etc.
- **Assistance to Disabled Persons for Purchase/fitting of Aids and Appliances (ADIP):** The Scheme aims at helping the disabled persons by bringing suitable, durable, scientifically-manufactured, modern, standard aids and appliances within their reach.
- **National Fellowship for Students with Disabilities (RGMF):** The scheme aims to increase opportunities to students with disabilities for pursuing higher education.
- Under the Scheme, 200 Fellowships per year are granted to students with disability.
- Schemes of the National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities.

2.3. Accessible Services for Person with Disabilities in India

- Accessible India Campaign
- SugamyaPustakalaya
- UDID Card
- Different types of Scholarships for Students with Disabilities
- National Policy for persons with Disabilities

2.4. Accessibility Standards in India

- Draft Accessibility Standards/Guidelines for MHA specific built infrastructure and Associated Services for

Police Stations, Prisons Disaster Centers

- Accessibility Guidelines for Bus terminals/Bus stops - Public Consultation reg.
- Accessibility Standards for TV Programmes for Hearing Impaired - seeking comments from General Public and Stakeholders by Ministry of Information and Broadcasting"[2]

In the last 75 years since independence, various laws, regulations, and schemes have been made for the disabled. All these schemes develop to provide better services to the disabled. The government of India has done all these activities for persons with Disabilities in the Last 75 Years.

3. ROLE OF LIBRARIES TO PROVIDE SERVICES FOR PERSONS WITH DISABILITIES (PWD)

To fulfill the objective of inclusive education, every educational institution should ensure accessibility of reading material to persons with disabilities in the institution and provide educational resources to such disabled students through the library. Libraries can work to convert the information needed by readers with disabilities into a usable format. It includes making printed books available in audio format as well as making e-resources like e-books, e-journals, and databases available to all readers with disabilities. With the help of ICT, library services can be extended for visually impaired students, by using Screen reading software in libraries. For extended library services, libraries can use software like JAWS, and NVDA. With the help of this software, library reading material can be made available to the visually impaired in a usable format. Libraries should use new technologies and aids to make library reading materials accessible to all students. Without changing the original information, libraries by converting format in audible form, increasing the size of letters, and preparing printed reading material in electrical format, libraries can do these tasks

through various software and devices. By doing this, the library will be able to provide its reading material to many readers at the same time. Adaptation of printed reading and converting it into audible form to meet the needs of the disabled will expand library services and enable the library to successfully fulfill its key role of serving students with disabilities.

4. INFRASTRUCTURE FOR PERSONS WITH DISABILITIES (PWD)

As compared to the traditional library, today's modern libraries are using various tools, techniques, methods and materials to provide library services. The increased use of ICT in libraries has completely changed the nature of the library. Computers and other assistive devices are more helpful to libraries in providing information to all types of readers. The nature of the initial services of the libraries was limited and the services were provided only for a limited time. Library services can be provided to all readers 24*7 if proper equipments are available in the libraries to provide the services. It is also important to have such resources and a library building. Library services should be provided to readers with physical disabilities as well as to general readers. This includes designing the interior of the library building keeping in mind the needs of readers with physical disabilities.

4.1. Library Building and Reading Section

It is not important that libraries only have reading materials available. It is also equally important to reach the reader with that reading material. Library readers also include persons with disabilities. Disabilities of students are of different types, some students are physically weak and cannot freely move around the library. The building should be designed in such a way that students with disabilities can easily access all sections of the educational institution as well as libraries. While designing the building, it is important to have

a conducive environment for the students from the gate they enter to their classrooms, offices, libraries, study rooms, and washrooms.

It is necessary to have a system of ramps to go to all section of the building. Libraries are major centers of learning, so designing the library should include doors and ramps that allow students with disabilities to enter without barriers. The furniture in the library should be designed to be useful for them, including chairs, tables, library desks, and notice boards, all of which should be at a suitable height. The furniture in the library should be such that a student with a leg disability can easily use theall this furniture. All paths in the library should be designed in such a way that the wheelchair of a disabled student can be taken to all sections parts of the library.

While designing the library building, the following points must be seriously taken into consideration.

1. Main Entrance: The main entrance of building should be thirty feet long that disabled people will not face any kind of obstacle while entering. Also, there should be a beeper facility at the main gate so that if the disabled face any difficulty while entering, they can use it to call for necessary assistance. Keeping the main entrance large will allow the disabled to bring their vehicles, and wheelchairs easily.

2. Ramp: To enter the library, there should be ramps for students with disabilities. With the help of this ramp, a physically challenged student can access the libraries with his wheelchair. The height of this ramp and its slope should be about one and a half feet high. The student sitting in that wheelchair can be carried easily by pushing his wheelchair. Such students will be able to access the libraries on their own without any help. For this, it is necessary to have ramps of this type everywhere in the library.

3. Door: All doors in libraries shall be at least three feet wide so that a disabled person will not have any obstacles near

the door while bringing his wheelchair into the library. The handle of this door should be three feet above the ground. A disabled person sitting in a wheelchair should be able to grasp the handle and open the door easily. All doors in the library should be designed in this manner This will enable disabled readers to access all areas of the library.

4. **Corridor:** The width of the corridor should be at least eight feet. If the width of the corridor at eight feet, then two disabled people can easily pass their wheelchairs at the same time. If there is a shortage of space, a distance of at least five feet should be maintained in corridors. Corridors should be designed so that the disabled can easily move their wheelchairs

5. **Lift:** When designing an elevator for a disabled person, the interior space should be five feet wide and five feet deep. This will allow the wheelchair to rotate inwards. The lift door should open at least 3 feet so that the wheelchair can be brought in and out without any obstruction. A wheelchair may be obstructed if there is no greater distance between the elevator door and the floor surface or if the surface is raised or lowered. In case of an emergency, the lift should have an alarm button to help the disabled person call for help. Along with this, it will be better if there are light, fan and phone facilities in the lift.

6. **Washroom :** Handicapped washrooms should be separate from other students'. There should be a spacious space where a wheelchair can be carry into the washroom. A commode system should be installed in the washroom and bars should be installed on both sides of the commode system. With the help of this bar, a person can get up from a chair and sit on the commode. Also, an alarm should be installed in this so that disabled students who go to the washroom can press the alarm and seek help if they face any problems.

7. **Public Telephone:** It is necessary to provide a public phone on the college premises to assist the disabled person. Through this, disabled persons can call their relatives, friends or staff on the college campus in times of need. Phones located

on the college campus should be intercom connected, through which a person with disabilities can call staff for help if they have any personal problems.

8. Notice Board : A notice board is provided to display the instructions given by the library and the college / university from time to time. The notice board should be four feet high. If possible try to give all the instructions in Braille language for Visually Impaired Students.It is also recommended to use in audio format to communicate instructions.

9. Switch Board : Switchboards should be placed at a height of four feet for accessibility of all electronic devices in the library to persons with disabilitiesso that a disabled student can turn on the switch while sitting in a wheelchair. The site of the switchboard should provide a description of what the switch is in Braille and these instructions should be placed next to the electronic board so that even blind students can operate the switches easily by touch.

10. Desk : The height of furniture or desks in library offices and study rooms should be about two and a half feet. While preparing the desks, care should be taken to ensure that a student in a wheelchair can use the desk. When preparing the desk, it should be considered that the knees of the person in the wheelchair will not hit the furniture. All desks in the library should be of uniform height and width of 3 feet.

11. Bookshelf : The distance between the two bookshelves should be three to four feet so that students with disabilities can move easily. The bookshelves should be designed in such a way that the titles of the books kept in them can be easily seen by the students. Additional braille boards areprovided to be in front of bookshelves for visually impaired students. Also, a trained person to be provided to assist the disabled students who will take the books required by the disabled students from the shelf and give it to them.

12. Cyber Library/E-resource Center: While designing the e-resources center and cyber library section, furniture should be made that is suitable for the disabled. Adequate space should be provided for proper handling of computers and related equipments. Screen reading software should be used when using e-resources so that all reading materials are accessible.

13. Library Counter : The height of the counter in the circulation section should be two and a half to three feet. So that disabled people can issue or return their books by sitting on wheelchairs also the width of the counter should be 3 feet so that there will not have any problem in exchanging books. Wheelchair-accessible space should be left around the counter. Every reader who comes to the library first comes to the circulation section, so all instructions should be given there.

4.2. Information Technology Infrastructure

The ICT infrastructure of the library must be good to provide the various services in the library well to all the readers. In addition to the computers and electronic devices currently used in the libraries, new modern equipments should be used. The resources contained in information technology are seen to be widely used only by the general reader. Currently, the number of disabled readers are increasing in the library readership. Libraries need to get some new equipment and use it to serve these disabled readers. Therefore, information can be provided to disabled readers as well as to normal readers.

4.3. Modern devices for Visually Impaired Students

Modern devices for Visually Impaired Students

1. Anne Braille Note Taker
2. Braille E-Book
3. Braille Interpreter
4. Braille Keyboard

5 Braille Lite
6 Braille Printer / Embosser
7 Braille Watches / Smart Watches
8 Closed -Circuit Television (CCTV)
9 Digital Talking Book Players
10 Digital Voice Recorder
11 Directory Reader
12 Draftman Tactile Drawing Board
13 Duxbury (Braille Translator)
14 EL- Braille Note Taker Machine
15 Electronic Braille Writers
16 Electronic Mobility Aids
17 Electronic Text
18 Filters - Umbermatic
19 Geometric Set in Braille
20 Hand-Held Scanner
21 Hindi OCR Scanner
22 KIBO Device
23 Large Monitor for low vision
24 Large Print Keyboard
25 Magnifying Glasses / Lenses
26 Marathi OCR Scanner
27 Plex Talk PTR 2
28 Plex Talk Vachak
29 Pocket cell and Stales
30 Reading Stand
31 Scientific Calculator for low vision
32 Screen Magnifiers
33 Screen Synthesizer

34 Single Handed Keyboard
35 Tactile Image Enhancer
36 TactiPad Drawing Tablet
37 Talking Calculator
38 Talking Dictionary
39 Taped Books (Audio Books)
40 Telescopes 4X
41 Type Scanner
42 Voice Recorder / CD Player
43 Zoom-Ex Instant Text Reader

4.4. Software and Hardware

Some screen reading software for the Visually impaired readers

Name of Software and Hardware

Sr. No.	Screen Reader
Software	
1	Job Access With Speech (JAWS)
2	Non Visual Desktop Access (NVDA)
3	Screen Access For All (SAFA)
4	System Access To Go
5	Web Any where
6	Supernova
7	Window-Eyes
8	Speech Synthesizer
9	Magic Screen Magnification software with speech
Hardware	
1	Computer
2	Laptop
3	Scanner
4	Printer
5	Xerox Machine

4.5. Skill required by LIS professionals

Various modern devices are being used in libraries to carry out innovative activities. Today in libraries various types of equipments and Softwares are available to provide library services to the disabled. If modern equipment is used in libraries to provide proper service to the disabled, it is necessary to train the staff to handle such equipment. Library staff should be trained on how to assist disabled readers visiting libraries. The needs of each person with disabilities vary depending on the type of disability, so libraries need to conduct training programs for staff and train them. The equipments and Softwares visually impaired readers are different. If the library staff is aware of all these equipments and software's, it can provide best information services. In order to provide library services to the disabled, it is necessary for the library to have a skilled and trained staff. It is the responsibility of every library to prepare the staff by giving them proper training. In today's modern library staff it is imperative that they are trained and constantly keep themselves updated.

5. DISCUSSION & CONCLUSION

To provide better services and Information to disabled readers, libraries need modern equipments. If the library wants to serve better services to the disabled, it needs a proper infrastructure of the library, equipments, technology, and skilled staff. The rules that have been made to provide library services to the disabled have been discussed by the author with many students with disabilities. It is suggested that libraries should use various devices and Softwares to serve the disabled and train the library staff to handle them.

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