

# ILA BULLETIN

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## Guest Editorial Time Management

A busy professional has more and more of everything but less and less of time. There are only 24 hours to honour our personal, family, institutional, professional, and social commitments. The contours of our commitments are growing day by day but the time is not. Moreover, many of us are typical victims of apathetic lethargy and stressful hyperactivity. First of all we go on postponing the things and then suddenly become hyperactive to meet the deadlines. This ends in lot of stress, and stress is the silent killer. The main challenge is how to manage time to honour our commitments without stretching and stressing ourselves beyond a desirable limit. First of all, we must learn to make analysis of how we spend our 24 hours. We will get the answer to our secret of success or reasons for failure. Secondly, we must put a question to ourselves, 'what is bothering us the most at a particular point of time?' We will get the answer immediately. To avoid further stress, we must try to find a solution to the problem that is worrying us. I mean to say that the stakeholders must learn to differentiate between the urgent and the important. The urgent must be attended to immediately. The important can wait.

There are a few tested strategies for time management. First of all we must identify the time wasters and do away with the habit of postponing the matters. Trying to attempt too much at a time, not learning to say no, being polite to thick skinned people, spending little time on planning and wasting more time on unproductive meetings are the main time wasters. If we want to make best use of our time, we should not try to be a perfectionist and please everyone. We should also resist the temptation to do the small and insignificant jobs. Must learn to prioritize, delegate and do the difficult first. These are the best practices for time management. The bottom line is that successful people do not have more time than us, but they know how to manage time. Let's also internalize this art of time management or else time will manage us.

**Prof. Jagtar Singh**

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# Public Library Scenario in Mizoram

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## **ABSTRACT**

*The article states the nature of public library and brings out history and system of public library in Mizoram. It mentions the support and contribution of Raja Ram Mohan Roy Library Foundation (RRRLF), Non Government Organisations (NGOs) and Adult Education Programmes for the development of public library. It also highlights the salient features of Mizoram Public Libraries Act. It also reflects on activities of Mizoram Library Association for the development of public libraries in the state.*

## **1 INTRODUCTION**

Libraries are the store-houses of knowledge with printed or non-printed, conventional and non-conventional materials irrespective of national, public, academic or special type of libraries. Dr. P N Kaula stated that, "Public libraries came up as institutions for the masses, where the illiterates were educated with the aid of pictures, stories and demonstrations, lectures and readings from the Epics and other literature of our country, and where the newly educated were helped to widen their knowledge with the aid of selected books on various subjects; and education through literacy classes was imparted to women and children also through magic lantern, puppet shows and theatre". Public library has completed its fortieth year of services in the state of Mizoram.

## **2 PUBLIC LIBRARY**

A library may be small or big, but falls under the broad categories of library systems, such as, national, academic, public or special. With the passage of time and also with the production of different writing materials this knowledge-communication system became very much congenial. Therefore, a library in whatever forms it exists should be a center of communication between the originators and users of thoughts and ideas. But the Public Library System, as the name implies, is user-friendly system as anybody can make use of this system without any discriminating on the basis of caste, creed, sex, religion, age, community and status.

Public library, from time immemorial, has been considered

as social institution based on the democratic principle "of the people, by the people and for the people". It is the living force of the world in different walks of life. Pierce Butler stated that, "The American library, especially, bears many traces of the peculiar social forces by which it was created. In the minds of its active creators there was always a clear and rationalized belief that this social institution is so necessary an agent for public enlightenment that its support, like that of schools, should be assumed by the state". This is the only institution, which caters all categories of users irrespective of age, race, sex, colour, creed and religion. Public Libraries serve as a catalyst for socio-cultural and educational development by providing access to information and knowledge. Therefore, the public libraries are considered as effective tools to mould the character of the citizens, which has wider impact on societal as well as national development. On defining a public library it may be acknowledged that, "an organization established, supported and funded by the community, either through local, regional or national government or through some other form of community organization in order to provide access to knowledge, information and works of the imagination, through a range of resources and services which is equally available to all members of the community regardless of race, nationality, age, gender, religion, language, disability, economic, employment status and educational attainment". According to Dr. S R Ranganathan, the Father of Library movement in India, public library is, "one which is open to any member of the public and annually free of any charge paid as so much service". The IFLA/ UNESCO Public Library Manifesto 1994 elaborates the

## PUBLIC LIBRARY SCENARIO IN MIZORAM

significance of public libraries as “the local gateway to knowledge, provides a basic condition for lifelong learning, independent decision-making and cultural development of the individual and social groups”, and further stated impact of public libraries for education and society as “a living force for education, culture and information, and as an essential agent for fostering of peace and spiritual welfare through the minds of men and women”. IFLA/UNESCO Public Library Manifesto 1994 reads the following key missions that relate to information, literacy; education and culture should be the core of public library services:

- creating and strengthening reading habits in children from an early age;
- supporting both individual and self conducted education as well as formal education at all levels;
- providing opportunities for personal creative development;
- stimulating the imagination and creativity of children and young people;
- promoting awareness of cultural heritage, appreciation of the arts, scientific achievements and innovations;
- providing access to cultural expressions of all performing arts;
- fostering inter-cultural dialogue and favoring cultural diversity;
- supporting the oral tradition;
- ensuring access for citizens to all sorts of community information;
- providing adequate information services to local enterprises, associations and interest groups;
- facilitating the development of information and computer literacy skills;
- supporting and participating in literacy activities and programmes for all age groups, and initiating such activities if necessary.

By considering different corners of the definitions of public library given above and the missions laid down by the IFLA/UNESCO Public Library Manifesto, it can be stated that the purpose of public library is:

- Established, supported and funded by the community under the clear mandate of law.
- A living force for education, culture and information, an essential agent for the fostering of peace and spiritual welfare through the minds of men and women.
- To provide equal free resources and services to the

society.

- To provide knowledge, education, information and cultural development to all members of the community regardless of race, nationality, age, gender, religion and language or social status.
- The responsibility of local or national authority.

The National Knowledge Commission (2007) recommended four-tier Public Library system as:

- ❖ **State Central Library:** Information Service, e-learning, knowledge management, knowledge centre activities, content creation and management, subject gateways, content analysis, collaborative publishing, e-governance and training.
- ❖ **District Library:** Information service, E-governance, content development and co-ordination of rural knowledge centres.
- ❖ **Sub-divisional/Town Library:** Lending of books, reference service, inter-library loan, web-based services such as e-learning, banking and insurance, community information, content and database creation.
- ❖ **Rural Knowledge Centre/Community Information Centre:** Lending of books, web-based services such as e-learning, banking & insurance panchayat-level information, e-governance, community information, content and database creation.

### 3 PUBLIC LIBRARY SYSTEM IN MIZORAM

Mizoram, the 23<sup>rd</sup> state of Indian Union is one of the seven sisters of the North Eastern States. There are 8(eight) Districts, 3(three) Autonomous District Councils, 23(twenty-three) Civil Sub-Divisions, 23(twenty-three) Rural Development Blocks, 23(twenty-three) Towns and 707(seven hundred and seven) Villages. According to the latest census report, the total population comes to 8, 88,572 and out of which urban population is 4,41,006 and rural population is 4,47,567. Mizoram is having 88.8% of literacy; thereby it is recorded as the second highest literacy rate among all Indian states. Mizoram is the tenth state of India with Library Legislation. The State Legislative Assembly enacted Mizoram Public Libraries Bill in 1993, which provides establishment of State, District, Sub-divisional and Village Libraries, but kept in abeyance.

The prolific development of Mizoram starts with the

mechanism and contributions of the Christian Missionaries of England. Education was started by the two Christian Missionaries, Rev. James Herbert Lorrain (Pu Buanga) and Dr. Frederick W. Savidge (Sap Upa) who traveled from London and arrived in Mizoram on 11 January 1894 under the Arthington Aborigines Mission. They developed Mizo Alphabets in Roman Scripts and started school in 1894 with two students. Due to their tremendous contributions and works, the Assam Government handed over school administration and inspection in Mizoram to the Christian Missionaries for some times.

### 3.1 Establishment of Public Libraries:

The first Public Library in the state was established by the Assam Government at Aizawl known as Sub. Divisional Library in 1968. The State Library was established by the U.T. Government of Mizoram in 1974. Today, there is one State Library at Aizawl, Five District Libraries (one each at Aizawl, Lunglei, Saiha, Kolasib and Champhai), which shows that there is no District Library in Serchhip, Mamit and Lawngtlai districts. These libraries have tremendous growth in membership, collection and visitors, which is shown below in table:

Sl no	Library	No. of Library Members		No. of Collection (Books)		No. of Visitors	
		2004-05	2005-06	2004-05	2005-06	2004-05	2005-06
1	State Library, Aizawl	7,537	7,632	56,167	57,824	3,957	3,403
2	District Library, Aizawl	3,040	3,688	27,243	28,678	3,705	6,304
3	District Library, Lunglei	410	464	17,559	17,873	3,965	3,622
4	District Library, Champhai	310	1,057	15,700	15,900	6,254	5,537
5	District Library, Kolasib	1,168	1,227	14,263	15,038	2,000	5,102
6	District Library, Saiha	526	533	12,885	13,658	230	947
<b>Total</b>		<b>12,991</b>	<b>14,601</b>	<b>1,44,117</b>	<b>1,48,972</b>	<b>20,111</b>	<b>24,915</b>

Table 1: Growth of State and District Libraries

Until 1989, the Library Services in Mizoram is under the Department of Education. But, in 1989, Education Department was trifurcated in three departments, namely- School Education Department, Art and Culture Department and Higher & Technical Education department and automatically, Public Library Services has been under the Department of Art and Culture. The State Library and District Libraries are run and administered by the State Government but, the Recognised Village Libraries are run by the NGOs, particularly by largest NGO in the state, Young Mizo Association, on voluntary basis. The State Government has given some grants and assistance to the Village Libraries in Cash or in kind from the state budget and RRRLF matching and non-matching funds.

Under the guidelines of RRRLF on "Books for the Millions at their Doorstep," the State Government constituted a committee known as "State Library Planning Committee (SLPC)" to facilitate better library services in public sector of the state. The State Library Committee of

Mizoram, since 1981 to till date, has recognized as much as 424 village/local libraries run by NGO's and other societies/ organizations within the state. The recognized libraries, on the basis of State Government's contribution under matching scheme, received certain amount of assistance through State Library Planning Committee, which is equally shared in kind. In order to facilitate Post-Literacy and Continuing Education of neo-literates and school dropouts, the Adult Education Centres established since 1979 were re-designated as Nodal Continuing Education Centres and Continuing Education Centres (CEC) in 1998. Now, there are 40 Nodal Continuing Education Centres and 360 Continuing Education Centres running in the state. Rural libraries were attached to each of the centers. The centers have also been utilized by the local youths of the public for recreational and information centers. These centers were looking after by untrained or non-professional Preraks or Assistant Preraks, getting their honorarium as per Government of India financial patterns. Public library positions in Mizoram is shown below:

PUBLIC LIBRARY SCENARIO IN MIZORAM

Districts	Total Population	No. of Towns	No. of Villages (Village Council)	No. of State/District Libraries	Recognized Libraries	CEC
Aizawl	3,52,676	4	105	1/1	164	261
Champhai	1,08,392	4	64	0/1	88	167
Kolasib	65,960	4	34	0/1	27	55
Lawngtlai	73,620	1	149	0/0	7	19
Lunglei	1,37,223	3	158	0/1	56	140
Mamit	62,785	3	80	0/0	32	90
Saiha	61,056	1	50	0/1	7	31
Serchhip	53,861	3	34	0/0	43	67
<b>Total</b>	<b>8,88,573</b>	<b>23</b>	<b>674</b>	<b>1/5</b>	<b>424</b>	<b>400</b>

Table 2: District-wise Public Libraries in Mizoram

It can be deduced from the above table that some villages have more than one library in their locality. Out of the 424 recognized libraries, 380 libraries are run by YMA (Young Mizo Association), largest voluntary organizations of the state, at different localities. 290 recognized libraries are in rural areas run and managed by YMA. The contributions of YMA for the establishment of library are sophisticated at different levels of locality. YMA is well organized and having about 3, 50,000 members in 747 branches at various corners of the country. The headquarters, known as Central YMA, have a committee, called Recreation Sub-Committee, concerning about the establishment, management and development of its branch libraries for the best use of the local people. Other agencies that organize rural libraries are Students, Organization, Local Youth Organizations/ Societies, Local Voluntary Organizations These rural

libraries are run and established on voluntary work, and therefore, most of its collections are supplied by the government from such sources meant for the purpose.

### 3.2 Staff

Staff is one of the trinity of library. A library should have adequate professional and non-professional staff to provide various information services and activities to the users. They need proper training for various activities. Recognized libraries were managed and administered by the concerned voluntary organization on voluntary basis; therefore, they cannot have adequate professional staff. At the same time, government established public libraries were managed under professional and non-professional staff, but staffs are not enough in numbers to provide the required information of the library users. Staff in various public libraries may be shown below in a table:

S.No	Library	Professional	Semi-Professional	Non-Professional	Total
1	State Library	2	2	10	14
2	District Library, Aizawl	1	1	4	6
3	District Library, Lunglei	1	-	3	4
4	District Library, Saiha	1	-	3	4
5	District Library, Champhai	1	-	3	4
6	District Library, Kolasib	1	1	3	5
	<b>Total</b>	<b>7</b>	<b>4</b>	<b>26</b>	<b>37</b>

Table 3: Public Library Staff

### 3.3 Collection

The fifth law of library science advocates the growth of libraries in various ways, and one of the most important spheres is growth in its collection. Growth of collection automatically increases other activities. Collection may be of various forms, electronics and other materials. Mizoram

public libraries have steady growth in document collection, but none of them are very poor in other forms because the state is not much aware in the development of public libraries. Anyway, the following table depicts growth of collection in such libraries:

Library	2001	2002	2003	2004	2005	2006	Total
State Library	2030	1897	529	1955	2062	1622	<b>10095</b>
District Library, Aizawl	558	650	879	413	1252	1151	<b>4903</b>
District Library, Lunglei	1151	809	1375	1008	535	695	<b>5573</b>
District Library, Champhai	523	316	1222	487	407	1160	<b>4115</b>
District Library, Kolasib	171	635	1203	500	472	962	<b>3943</b>
<b>Total</b>	<b>4433</b>	<b>4307</b>	<b>5208</b>	<b>4363</b>	<b>4288</b>	<b>5590</b>	<b>28189</b>

Table 4: Collections in Public Libraries

### 3.4 Services

As there are no sufficient professional staffs in each of the Public Libraries, it is difficult to organised various library services to the users. The main services rendered by the public libraries in Mizoram are:

- 1) Lending Service;
- 2) Reference Service;
- 3) Reprographic service;
- 4) Current Awareness Service;
- 5) Children Section/service;
- 6) Periodical

### 3.5 Finance

State Government is the main regular source of finance. In comparison to other departments, budget allocation for public library is quite low, but on the other hand, it gets highest allocation within the department sections, whereas 22.12% of the total budget is allocated from the parent department, Art and Culture in 2007-08.

The 11<sup>th</sup> Finance Commission had given grants to the tune of Rs. 2.6 crore which was fully utilized for up gradation of public libraries. Rs.209.90 lakhs was used for creating Corpus Fund and the interest accrued out of the fund are being utilized for purchase of books, periodicals, furniture, etc. for the development of public libraries in Mizoram every

year. The 12<sup>th</sup>. Finance Commission has also allotted grants to the tune of Rs. 50.00 lakhs to be utilized annually @ Rs. 10.00 lakhs for development of public libraries. The functions, services and management of the above five district libraries are to the mark of the library standards and norms provided for the public libraries. Budget allocation for the last four years is given below:

Head	2004-05	2005-06	2006-07	2007-08
Plan	17.23	18.87	12.89	27.45
Non-Plan	13.60	17.90	17.90	19.30
<b>Total</b>	<b>30.83</b>	<b>36.77</b>	<b>30.79</b>	<b>46.75</b>

Table 5: Budget allocation for Public Libraries

## 4 RRRLF AND PUBLIC LIBRARY IN MIZORAM

RRRLF established by the Central Government as an agency for the promotion and development of public library survives in the country has been the lifeline of public library services in Mizoram. RRRLF Matching Scheme strengthened, developed and promotes public libraries in the State, particularly to the village libraries. The State can availed the valuable services of RRRLF after ten years of its inception. The contributions of the State Government to the RRRLF Matching Scheme since 1982-83 are present as below:

PUBLIC LIBRARY SCENARIO IN MIZORAM

<i>Sl.No</i>	<i>Year</i>	<i>Recognized Libraries</i>	<i>Mizoram Govt. Contribution (Rs)</i>	<i>Variance (Rs) (+)/(-)</i>
1	1982-83	25	20,000	0
2	1983-84	30	20,000	0
3	1984-85	39	30,000	(+) 10,000
4	1985-86	45	40,000	(+) 10,000
5	1986-87	55	60,000	(+) 20,000
6	1987-88	70	50,000	(-) 10,000
7	1988-89	77	1,00,000	(+) 50,000
8	1989-90	77	1,00,000	0
9	1990-91	77	2,00,000	(+) 1,00,000
10	1991-92	112	2,00,000	0
11	1992-93	150	2,00,000	0
12	1993-94	178	3,00,000	(+) 1,00,000
13	1994-95	188	3,00,000	0
14	1995-96	208	4,60,000	(+) 1,60,000
15	1996-97	300	15,00,000	(+)10,40,000
16	1997-98	327	15,00,000	0
17	1998-99	343	12,00,000	(-) 3,00,000
18	1999-2000	364	15,00,000	(+) 3,00,000
19	2000-01	390	12,00,000	(-) 3,00,000
20	2001-02	399	12,00,000	0
21	2002-03	411	12,00,000	0
22	2003-04	415	12,00,000	0
23	2004-05	418	12,00,000	0
24	2005-06	418	10,00,000	(-) 2,00,000
25	2006-07	424	5,00,000	(-) 5,00,000
26	2007-08	424	5,00,000	0

Table 6: Mizoram Government's Contribution to RRRLF

Since 2005, RRRLF revised Matching Fund share to 90:10 for NE States and State Government reduced its contributions accordingly. State Library Committee utilizes the share of RRRLF under matching scheme to give best result for the promotion and development of libraries in the

State. All the recognized libraries have equal share and received assistance by kind from RRRLF. The total number of books received from RRRLF through Matching Scheme from the first time 1987-88 to 2006-07 is illustrated as follows:

Sl. No	Year	No. of Books	Variance
1	1987-88	16,871	-
2	1988-89	6,293	(-) 10,578
3	1989-90	9,735	(+) 3,442
4	1990-91	13,316	(+) 3,581
5	1991-92	14,455	(+) 1,139
6	1992-93	17,029	(+) 2,574
7	1993-94	26,080	(+) 9,051
8	1994-95	19,760	(-) 6,320
9	1995-96	46,000	(+) 26,240
10	1996-97	21,420	(-) 24,580
11	1997-98	52,471	(+) 31,051
12	1998-99	51,891	(-) 580
13	1999-2000	39,338	(-) 12,553
14	2000-01	37,224	(-) 2,114
15	2001-02	44,420	(+) 7,196
16	2002-03	63,350	(+) 18,930
17	2003-04	32,316	(-) 31,034
18	2004-05	39,735	(+) 7,419
19	2005-06	38,745	(-) 990
20	2006-07	63,701	(+) 24,956

Table 7: Year-wise procurement of books from RRRLF Matching Scheme

### 5 MIZORAM PUBLIC LIBRARIES ACT, 1993

Mizoram is the ninth state of India enacted Library Legislation. Mizoram Public Libraries Bill was first introduced at the tenth session of the Second Mizoram Legislative Assembly sitting on 17 March 1992 and was passed on 6<sup>th</sup> January 1993. The Mizoram Public Libraries Act, 1993 was not implemented even after fourteen years of its enactment, but worth to mention important features of the Act as below:

Preamble of this Act clearly stated its objectives as, “An Act to provide for the establishment, maintenance and development of comprehensive public libraries system in the State of Mizoram”.

#### Chapter I dealt about

- the title of the Act, which is to be extended to the whole of Mizoram on such date as the Government notify in

the official Gazette of the State.

- Definition of different terms that appear in the Act.

#### Chapter II spells about

- the constitution of State Library Council, Minister and Secretary of Education & Human Resources Development as Chairman and Secretary respectively, and ex.officio members and other members with term of office.
- The Council is to advise the Government on all matters relating to Libraries and in regards to promotion and development of library services in the State.
- The Council is to take suitable steps to establish and promote a Public Library System in the State.

#### Chapter III dealt about the constitution of Department of Public Libraries which proposed:

- directorate of Public Libraries with Director as its head and other supporting staff, like Joint Director, Deputy Director and other.
- appointment of staff on accordance with the provisions of the rules made under this Act.
- absorption of existing library staff under this Act.

#### Chapter IV reads about the establishment of different categories of Public Libraries as:

- State Library; District Library; Sub-divisional Library and Village Library with their locations;
- Different sections in the State Library are-
  - Bureau of copy right;
  - State Library for the blind;
  - Inter Library Loan;
  - State Bibliographical Bureau;
  - Technical Services; and
  - Mobile Service.
- Recognition of Village Libraries by the Government.

#### Chapter V is about the provision of financial assistance to recognized Village Libraries.

#### Chapter VI makes provision for:

- The recognition of State Library Association by the Council;
- To make rules to carry out the purpose of this Act.

## PUBLIC LIBRARY SCENARIO IN MIZORAM

The Mizoram Public Libraries Act, 1993 does not have the provision of library cess. The total expenditure for the establishment and maintenance of the public library system will be met from the State funds.

### 6 CONTRIBUTIONS OF MIZORAM LIBRARY ASSOCIATION

The first Library Professional association in the state, known as Mizoram Library Association came into being on 23<sup>rd</sup>. October 1987 at Aizawl. The association since its inception has tremendous works and activities for the promotion and development of library services in Mizoram. Some of the activities may be mentioned as below:

- ❖ **Library Seminar-cum-Training:** The association, in collaboration with the Department of Art & Culture and RRRLF had being organized eight Library Seminar-cum-Training Programmes for the recognized libraries in Mizoram since 1989 which were held generally in alternate years.
- ❖ **Library Visits:** The association visited forty-four recognized libraries at different places in 1992 giving on the spot training to local/village librarian.
- ❖ **Certificate Course:** The association, in association with the Department of Art & Culture organized Certificate Course in Library & Information Science at Aizawl in 1997. Twenty students successfully completed the course and the course was recognized and approved by NEHU consequently.
- ❖ **Publication:** The Association published “Library Education Booklet” and “Library Guide” for the Village/Rural Libraries.
- ❖ **Best Library Selection:** To promote and develop village libraries, the association selected Best Library in 2003 amongst the Recognized Libraries and awarded the following prizes:

First Prize	:	Rs.10,000.00 with Citation;
Second Prize	:	Rs. 7,000.00 with Citation;
Third Prize	:	Rs. 5,000.00 with Citation;
Fourth Prize	:	Rs. 3,000.00 with Citation; and
Fifth Prize	:	Rs. 2,000.00 with Citation.

### 7 CONCLUSION

Public library is the local information centre where the community can locate their information needs through its various services. It promotes the people irrespective of age, race, sex, religion, nationality or language in various activities of knowledge. It supports community in their daily information needs and promotes education and socio-cultural activities of the local people. It is by which information divide can be bridged between the information rich and information poor, have and have-nots in the present information highways. Public library plays vital role for the community development in India and as such it needs to be strengthened and fostered as hub to meet global information needs of various users.

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## Digital Library : Bridging Digital Divide

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### **ABSTRACT**

*The development of the hybrid library is an attempt to integrate library resources such as the CDROM/ DVD, databases (online and networked databases), electronic journals etc. into a united system. The digital technology which is also into the process of production, distribution and storage of information has made the libraries to go digital. Libraries all around the globe have responded to various challenges posed by the preservation of digital information. But it has encountered the technical, organizational, resource and legal issues associated with it. Digital Libraries are large, organized collections of Information objects. Well –designed digital library software has the potential to enable, build and disseminate new information collections. There is a need to establish as many digital libraries as possible in our country. It is felt that there is still no significant headway in this respect in India. On the other hand, the developed countries are making tremendous progress in creating digital libraries.*

### **INTRODUCTION**

As we move into the 21st Century, the pace of globalization and the growth of new technologies, such as the Internet, are fueling both economic prosperity and human advancement. The Internet itself has started to transform the way we deliver and receive information and, in turn, how we live and do business. This recent phenomenon is being labeled by many as nothing short of a revolution - the Information Revolution. The World Bank, among other leading organizations, now recognizes that advancement in the new Digital Age depends on being given meaningful access to new information tools, such as the Internet. The potential for social and economic inequality due to lack of access is an issue of growing concern. The fear is that the global gap between the haves and have-nots, between the know and know-nots, will widen. This digital divide or cyber segregation is a multi-dimensional challenge that will require an innovative blend of creativity, capital, and commitment.

This issue becomes even more pressing when looking at the implications for large, developing countries such as India. Urgent action needs to be directed towards broadening the use of such communication tools to help the underprivileged. A country that has earned its well-

deserved reputation as an information technology superpower should demand no less from itself. Such ominous societal issues cannot be left to the Government alone to solve. A new approach is needed. Bolder, more aggressive action is required.

We believe that while many are living in a period of tremendous prosperity, innovation, and growth, the disparity between wealth and poverty has never been greater. This is especially true in India. Innovative approaches to closing this gap are required.

### **I. WHAT IS DIGITAL DIVIDE?**

The term digital divide was coined in the mid 1990's. The term "digital divide" refers to the gap between individuals, households, business and geographic areas at different socio-economic levels with regards to their opportunities to access Information and Communication Technologies (ICT) and their use of Internet. It reflects differences among and within countries and continent.

The Information Age has so far touched only at meagre number of the world's population. If we define access to the World Wide Web (WWW) as a criteria for joining the

Information Age, less than 5% of the world's population able to access it, (by the year 2002). India's digital divide is ever widening chasm that separates a narrow upper crust of bandwidth hungry urbanites from the vast majority of their malnourished, illiterate countrymen, who may have to walk long distance just to get to the nearest working telephone. "In the Indian context, bridging the digital divide essentially means bridging the teledensity divide between rural and urban areas," said R.R.N. Prasad, member of the Telecom Regulatory Authority of India (TRAI). "The major metropolises are at par with some of the developed countries but rural areas in states like eastern Bihar and Orissa states are worse off than several of the least developed countries (LDCs)", he explained.<sup>[1]</sup>

## II. DIMENSIONS OF DIGITAL DIVIDE

It is obvious that there is a complex relationship between barriers of access and content. Without more and easier access, content will continue to be less representative. Without more representative content, there is less incentive for underrepresented groups to overcome the access barrier. A policy decision about where to make an intervention to break this vicious circle will have to be a considered one. An attempt needs to be made to analyze the dimensions of the digital divide more closely. As viewed analytically, there is not one, there are five digital divides.<sup>[2]</sup>

The first divide is between rich and poor nations between developed and developing countries. Internet penetration is much greater in the developed world than in developing countries. High-income countries, with only 16 percent of the world's population, have 90 percent of Internet host computers. In these countries (excluding the US) Internet users constituted 28 percent of the population in 2000 while the proportion was only 3.2 percent in Latin America and 0.4 percent in sub-Saharan Africa. Moreover, the mere existence of technicians and engineers in developing countries does not necessarily imply that countries as a whole are benefiting from their hubs of prosperity. Despite having the second largest number of English-speaking scientific professionals in the world after the United States, the number of Internet hosts per 1000 people is a negligible, 0.1 in India compared to 179.1 in the US (HDR, 2001).

The second divide exists within every nation, industrialized or developing, between those who are rich, educated, and powerful, and those who are not. For example, income and education in the United States distinguish dramatically between those who own computers and those who do not, as between those who can access the Internet and those

who cannot. In the United States, where household telephone penetration is about 95%, in 1999 households with incomes over \$75,000 (roughly, the top 10%) were twenty times more likely to have Internet access than those in the lowest income brackets.

The third digital divide, often less noted, is linguistic and cultural. In many nations this divide separates those who speak English from those who do not. But even in the United States, where well over 95% of all inhabitants speak fluent English; there are large differences in access to ICTs among different ethnic and cultural groups. For example, in 1998, Asian American households (largely of South Asian or South Pacific Asian extraction) had 55% computer ownership, white Americans had 52%, and while Americans of Hispanic origin had 25% and blacks 23% respectively. An even larger gap separated Asian Americans and whites from blacks and Hispanics with regard to Internet access.

The fourth digital divide is commercial versus individual right divide. The last few years have seen the utilisation of the medium in the roaring business of global electronic commerce. The use of the Internet as a vehicle for freer and wider speech for individuals has sometimes been pushed to the background by commercial developments and, at other times, has been seriously compromised.

The fifth dimension of digital divide is digital development itself, i.e. whether the prosperity of this digital elite spreads to the rest of society, especially to urban poor and to rural villages, or whether it creates an increasingly separate, cosmopolitan knowledge based enclave. Despite excitement about the Internet's potential runs the risk of rising expectation creating an illusion that it is also a global distributor. In fact, the financial and technological entry for uses of this medium have meant that the vast benefits of global communication and information dissemination are not only unevenly distributed but, have also tended to enhance economic and social inequalities. Such contradictory developments have forced international organizations, to attempt to understand the increasingly complex interrelation between the Internet and development issues.

## III. DIGITAL DIVIDE IN INDIA

In the light of above discussed dimensions of digital divide we can easily understand the status of India and its citizen in terms of penetration of ICT. At the international level the position of India is definitely very poor. The 1999 UN report on Human Development says at one extreme the United States and the countries like Sweden Germany, Finland and

Iceland where household telephone connectivity is well over 90%, computer saturation is over 50%, and home-based Internet connectivity averages over 50%. At the other extreme lies most of Africa, most of South America, South Asia, China, Indonesia, and so on — the 80% of the world where telephone connectivity is 3% or less (less than 30 million/1 billion in India), home computer ownership is 1 - 2% and Internet connectivity less than half of that.<sup>[3]</sup>

As of mid 2002, no comparable studies have been conducted in India, where telephone connectivity is extremely low (about 3%) and the installed base of computers and Internet connections even lower. But the overall pattern is clearly similar to that in America. As of early 2002, there were approximately six million computers in India, of which perhaps two-thirds were in businesses, schools, government offices, etc. leaving, at a high estimate, two million computers in households. In mid- 2002, there were probably about a million Internet connections in India, again most of them in institutional settings rather than individual households. A figure of 1,000, 000 Indian Internet-connected households (out of about 200,000,000 households) in 2002 would be on the high side. Despite the success of PCO/ STD/ISD booths (manned pay phones) in cities and villages, and despite repeated government promises to provide telephone connections to all of India's 700,000 villages, many Indian villages remain without any. As a result, most rural Indians have never made a telephone call. In short, there is no doubt of a massive digital divide in India based on income, education and urban residence, and also economic, political and cultural power.<sup>[3]</sup>

As in other countries digital divide exists between linguistic and cultural reasons this is also visible in India. For Indians who speak no (or little) English, the barriers to the Information Age are almost insuperable. All widely used operating systems require some knowledge of English. Thus, in practice, unless Indians know English which most Indians do not. No matter how wealthy, brilliant, educated, prosperous or motivated they may be, computer use and Internet access are effectively out of question.

The critical question about the fifth digital divide is showing its indications in India also. In India in the immediate surround of the IT industry in cities like Bangalore, there are of course visible ancillary benefits to workers in supporting industries: to the builders of the new apartment buildings, the employees of the boutiques, coffee houses, and shops, the owners of the travel agencies businessman etc. But it is a long way from these IT-related enterprises to life in rural villages less than 100 km. away.

#### **IV. INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) – A DISTANT DREAM FOR COMMONMAN**

There is huge disparity in the penetration and availability of ICT to common man. But still we have a chance for a variety of reasons. The first is that the technology is changing at breathtaking pace. The costs of transferring information, sending a communication and so on are plummeting. The second is that India is a late entrant and, therefore, our investments have not been locked in old infrastructure and old technology. We can take advantage of the front line technologies and leap frog. Thirdly, the new digital medium is providing unique opportunity to 'reach the unreached', that is those that are distant or those that are uneducated or those that are economically poor. And finally there is a welcome change in the leadership in the country, where the importance of Information and Communication Technology (ICT) is being understood and promoted at all levels including the Centre and the States. This is clear from the PM's belief that IT is 'India's Tomorrow', passing of an excellent IT bill and pushing forward with the Convergence Bill, nor forgetting, of course, the techsavvy chief minister from several States, who are driving IT based transformation in their States. In India, we always have had a practice of joint family, which embodies the principle of sharing. One newspaper is read by 10 people. One e-mail address is used by 10 people. Individual ownership is not what we keep on fighting for. What is, therefore, important is to create not 'individual ownership' but opportunity for 'shared economic access'. Provision of Internet at public institutions, libraries, local and regional government Offices, ISD and STD booths will do the trick.<sup>[4]</sup>

#### **V. MAKING ICT ACCESSIBLE FOR THE COMMON MAN**

The following ways can be suggested in which ICT's might be used to increase equity and promote diversity.

1. Information technologies should be introduced when (and only when) they constitute the most effective available way of meeting basic human needs and fulfilling fundamental human rights.
2. ICT must fulfill the local need, which can be easily used by local citizens. It should use local language and target the local problem. In July 2000, 94% links to the secured servers were in English. For a country like India, where only 5% of the people speak English, this is problematic. However, there are technologies that are available to create the content in a local language. But one of the major

## DIGITAL LIBRARY : BRIDGING DIGITAL DIVIDE

problems is the lack of adherence to a single script-encoding standard for each of the Indian languages. Something has been done but lot is to be done.

3. The most beneficial way of using the technological development in bridging the divide is not only the computers, e-mail or Internet access, but also the use of other computer-based technologies, including embedded chips, satellite based information, etc. in order to better meet local needs.
4. ICT technologies should be economically viable as these technologies involve huge cost and not easy to replace old technology with new one.
5. We should be wary of high sounding promising and “difficult-to-implement” plans and shift for concrete and tangible results.
6. We should start bridging the digital divide from ground level to benefit mass population, as already investment going on huge amount at top level.
7. It should be ensured that project running in this field should able to reach the target group.
8. Innovative sharing of infrastructure is one that can bring down the cost enormously. So ICT effort is needed to share experience within and between nations and group working on it.
9. Proper representation of digitally underpowered in the decision-making councils defining regulation of IT infrastructure. These councils should also include disabled person and women.
10. Better interaction of Public & Private sector. There is conflict between affordability and cost of universal access; investment in the telecom sector in rural areas may not yield reasonable returns and if higher rural network costs are translated into higher tariffs, then it adversely affects affordability and consequently penetration. Further, with de- regulation, developing countries cannot resort to the classical method of cross-subsidization for providing affordability rural access. Universal obligation funds are either not adequate or would need higher contributions from the service providers thereby adversely affecting cost of providing such services. Therefore, the option of providing “Public Access” as distinguished from “Household Access” in rural

areas in the first instance to demonstrate viability. For this purpose there is need for cooperation between public and private sector initiatives. Along with that incentives to the private sector to donate equipment and training should be provided. <sup>[5]</sup>

## VI. DIGITAL LIBRARY – AN INTERVENTION FOR BRIDGING DIGITAL DIVIDE

It is amply evident from the above-mentioned scenario that web is both an opportunity and a threat rolled into one. It is transforming the way work is done almost everywhere and by almost everyone necessitating the governments, corporate and the society to keep adapting and evolving all the time. Those who are ignoring the digital call, by design or default, are getting relegated to the wall, slowly but surely. It is for the saner elements in the global community to ensure that the digital divide is effectively contained, bridged and managed. This would require a more balanced deployment of the Internet technology across the globe, and, thereby ensure an equitable distribution of its social and economic payback in today’s knowledge society. India definitely has a chance to convert the threat of a ‘digital divide’ into a ‘digital opportunity’, if we back up technology with reforms and investments with political will. India has already taken major initiatives for bridging the digital divide and Digital Library is one such initiative.

## VII. INITIATIVE BY GOVERNMENT OF INDIA

Department of Scientific and Industrial Research (DSIR), Department of Information Technology (DIT) and the Department of Culture (DOC), Government of India took note of the situation and initiated the Digital Library Projects in India in right earnest. DSIR funded the project on Digital Library of Traditional Heritage knowledge; DIT initiated the Digital Library of India and the DOC supported the Digital Library activities at Indira Gandhi National Center for Arts. <sup>[6]</sup>

Digital Library of India (DLI) Initiative was launched by the President of India in September, 2003 at Bangalore. Four Regional Mega Centers and 20 Scanning Centers will develop requisite access technologies such as Cross-Lingual Information Access, Multilingual Crawler, OCR with workflow, Multimedia Interface for physically challenged, Automatic Search Indexing tools, Multilingual and Multi-model authoring, tools, Text summarization with focus on nine languages to begin with. Digital Library of India project is to be implemented in close cooperation with the Universal Digital Library (UDL) project at Carnegie-Mellon University.<sup>[6]</sup>

### VIII. DIGITIZATION OF LIBRARIES IN INDIA

Libraries comprise a major group within the cluster of institutions under the Department of Culture, Government of India. The Department is directly or indirectly involved in the administration, maintenance and development of some of the most important libraries in India. The National Library, Kolkata, the Delhi Public Library, Delhi, Connemara Public Library, Chennai and State Central Library, Mumbai which are depositories of the printed cultural heritage of India are either fully or partially supported by the department. It also supports Archival libraries which specially focus on manuscripts and rare books. These are Asiatic Society, Kolkata, Khuda Baksh Oriental Public Library, and Thanjavur.

The Department of Culture also monitors development of public libraries through the Raja Ram Mohan Roy Library Foundation. With Central Secretariat Library as the nodal library in the government sector, the department has to play a vital role in the development of government libraries by setting standards, imparting training and pioneering modernization of libraries in that sector as well. The digitization programmes in the Department of Culture libraries are still in a state of infancy. Most of the libraries have sufficient material for digitization but have to prepare a well-planned programme to avoid any duplication and to encourage complementary efforts for resource sharing. Under the digitization programme the Central Secretariat Library had digitized Department of Culture's Annual Reports, Expenditure, Budget, and demand for grants and Performance Budget for 10 years with retrieval facilities under a Pilot Project. It has also digitized the Mahabharata with user-oriented value addition in collaboration with C-DAC, Bangalore.<sup>[7]</sup>

On 8th September, 2003 the President of India, Dr. A.P.J. Abdul Kalam, launched a 'Portal of Digital Library of India' at Bangalore. It is reported that this portal will have 27000 or more books in digitized form available on the internet to people globally. This is a part of the Universal Library Project of the Carnegie Mellon University, known as the 'India-US Million Book Digital Library Project' lead by Prof. Raj Reddy of the same Carnegie Mellon University and Prof. N. Balakrishnan, Chairman, Division of Information Science, Indian Institute of Science. The project has also drawn participation from several governments, religious and academic institutions in India. The near term objective of this project is to have one million books in the digital library of India by the year 2008. The intention is to have other forms of communication such as famous speeches, music

and so on as part of the digital library by 2020. Another aspect of the digital library project is to make it possible to run a search across languages using a term in one's own language and obtain a translation of the relevant portion. This shall make it possible for people to have access to knowledge that exists in languages other than their own. So a Telugu speaker will be able to access information in say Hindi or Urdu, by running a search using his own language. However, for this feature to be fully operational, optical character recognition (OCR) software that can operate in languages other than English will have to be developed.

### IX. THREE TIER INFORMATION DATA-BASE FOR AN ON-LINE DISSEMINATION OF INFORMATION

Digitization of libraries should be undertaken as a part of Information and Education Policies of the Government of India so that the libraries at the national, state and district levels can supplement the efforts of the Central and State Governments to disseminate information, both official and non-official while acting as the major resource centers for information on and about India. Since the National Informatics Centre (NIC) has already been established and is doing an excellent job, the network of digital libraries should also be a part of the system. The digital library network should consist of the select libraries at the national, state and district levels as a part of the three tier digital library and information system. The areas of operation of each digital library must be defined clearly in order to avoid duplication.<sup>[6]</sup>

India is a vast country inhabited by over 100 crore people spread over 28 States and 7 Union Territories, which are further divided into approximately 593 districts, 3126 towns and 600,000 villages. Information on India is being sought by all citizens irrespective of the fact whether they live in a city or a village. Hence, there is an urgent need to create integrated resource centers by digitizing the select libraries and the government information for an instant dissemination at:

- DISTRICT LEVEL, covering local information, literature, languages, geographical areas inclusive of cities, towns and villages;
- STATE LEVEL, covering all the districts, cities, towns, villages for local information, languages, literature, geographical areas and the state government;
- NATIONAL LEVEL, covering all the states, districts, cities, towns, villages for local

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information, languages, literature on India published in India and abroad, geographical areas and the Central Government.

By dividing the subjects and languages in India available in Indian Libraries and then networking for search through NIC, the duplication can straight way be avoided and accessibility made easy at all levels without any waste of time.

- DISTRICT CENTRAL DIGITAL LIBRARY (DCDL) should identify and digitize all the district level government information, its records, local cultural heritage literature, books published on the areas falling under the district, books published in the district in English and local languages and the data, can be linked with state and national level network;
- STATE CENTRAL DIGITAL LIBRARY (SCDL) should identify and digitize the prominent libraries.

### X. INNOVATIVE DIGITAL LIBRARY PROJECTS IN INDIA

There are several examples of innovative applications of Digital Libraries in India. These range from capturing traditional knowledge to a digital library of doctoral level thesis and dissertations.

The Digital Library of India is an ambitious project of the Indian Institute of Science and the Ministry of Communications and information Technology of the Government of India. The partners to this project include the Carnegie Mellon University USA and the National science Foundation. This library has made available around 27,000 books on the Internet. The plans are to have around 500,000 books on the Internet by end 2004 and around I Million books on the Internet by end 2005. These books would be in Indian language interfaces and would be available to the remote rural parts of India. The Digital Library of India will be a great step forward in enabling the bridging of the knowledge divides between urban and rural peoples of India. <sup>[8]</sup>

Honeybee: The Honeybee experiment of the National Innovation Foundation and the Indian Institute of Management Ahmedabad is a project by which innovations made by villagers to solve their problems are captured on video and stored in a PC in multimedia database. This is then showed to villagers of other villages and they are then encouraged to think of ways by which the idea being presented to them could also be implemented by them in

their condition. Examples include a tilting bullock cart to new ways of storing grain. This is an off-line digital library of innovations used to capture and disseminate knowledge to villagers in multimedia form. <sup>[9]</sup>

BAIF Development Research Foundation Pune in collaboration with IDRC Canada has set up a GIS based knowledge base of traditional knowledge of groundwater in districts of Maharashtra in India. Tribal folk in the Deccan region of India have the knowledge that the existence of a particular type of tree in the region of India would imply a very high probability of locating groundwater in that area. This traditional knowledge has been captured in this knowledge base and a mapping has been done. This digital library therefore contains mappings of groundwater locations in this region and is of great use to the tribal folk since it gives a consolidated view of the groundwater in their region. It also helps Governmental organisations to take effective water management measures. <sup>[10]</sup>

### XI. LEARNING FROM EXPERIENCE OF OTHER COUNTRIES IN DIGITAL LIBRARIES

India has made a slow start in the development of digital libraries. Countries like United States of America have made tremendous progress. In the U.S.A, the NCES Survey noted that in 1996, 3,408 of 3,792 institutions of higher education had libraries holding 806.7 million volumes. The 112 largest university libraries in the United States and Canada each have at least 1.8 million books. They are members of the Association for Research Libraries - a consortium of libraries.

Most of the junior colleges, high schools and public libraries have much smaller collections. Making this large knowledge repository can revolutionize research at all levels of education and give a much-needed boost at minimal cost to our national educational infrastructure. This impact will be further enhanced given the convenience of online access and the benefit of full text searching at word and phrase levels.

Digital library research projects have a common theme of bringing search to the net. The initiatives focus is to dramatically advance the means to collect, and organize materials in digital formats and make them available for searching, retrieval and processing via communication networks. Six major projects were involved in DLI-I, (1994-98) sponsored in the U.S by the National Science Foundation, the Advanced Research Project Agency, and the National Aeronautics and Space Administration.

These DLI-1 projects use many contrasting approaches.

For example, University of Illinois and University of California, Berkeley projects both full plan systems with many users, with the Illinois project focusing on manually structured text documents, and the Berkeley project on automatically recognized image documents. These projects use complementary approaches, receiving materials in electronic format directly from publishers to take advantage of the embedded Standard Generalized Markup Language (SGML) structure, and receiving them in paper format in large volumes and automatically transforming the articles into digital format.

The Carnegie Mellon and Santa Barbara projects plan to provide the ability to manipulate new media that were previously impossible to index and search. Carnegie Mellon is investigating, segmenting and indexing video, using automatic speech recognition and knowledge about structure. Santa Barbara is indexing maps, using automatic image processing and knowledge about region metadata.

The Stanford and Michigan projects plan to investigate the intermediaries necessary to perform operations on large-scale digital libraries. These projects are trying to find the representations needed, on the one hand, to interoperate between the formats for different search services and, on the other hand, to identify the appropriate sources to be searched for a govern query. All projects are building test beds with large collections to address their corresponding fundamental research questions in to building large-scale digital libraries.

The second phase "Digital Libraries Initiative-phase (DLI-2' 1998-2004) is sponsored by the National Science Foundation, the Defense Advanced Research Project Agency, the National Library of Medicine, the Library of Congress, the National Aeronautics and Space Administration, and the National Endowment for the Humanities. DLI-2 awards involve eight agencies, to make for a full range of activities related to different digital libraries: These include interoperability, portability, data exchange, scalability, federation, extensibility and open network architectures in the following universities:

The Electronic Libraries Program (e-lib) of the United Kingdoms Joint Information Systems Committee (JISC), Australia's Distributed Systems Technology Center (DSTC), the Canadian Initiative in digital Libraries (CIDL) and the DELOS Working Group of the European Research Consortium for Information and Mathematics (ERCIM) and many other digital projects are under way in Europe, Asia and elsewhere.

## **XII. ONGOING DIGITIZATION IS THE NEED OF THE TIME**

Above-mentioned scenario clearly shows that large-scale digitization of libraries is going around and it is the need of the time as online search is to make locating the relevant information inside of books far more reliable and much easier. Student success in finding exactly what they seek will increase and increased success will enhance student willingness to perform research using this large resource. NCES reports that 84 per cent of libraries around the country are open between 60 and 80 hours a week. This digital library would be open all the 168 hours of the week in a year. More than one individual will be able to use the same book at the same time. Thus, popular works will not be checked out and thus unavailable to others. This million-book project will produce an extensive and rich test bed for use in further textual language processing research. It is hoped that at least 10,000 books among the million will be available in more than one language, providing a unique resource for example based machine translation. Many believe that information is now doubling every two years. Machine summarisation, intelligent indexing and information mining are tools that will be needed for individuals to keep up in their discipline work, in their businesses and in their personal interests. This large digitization project will enable extensive research in these areas. <sup>[11]</sup>

In the present day information society, literacy means computer literacy." Even the marginally literate people will not be able to survive and compete in the academic field. With the exponential growth of digital information, Internet is becoming the most important source of information. The Internet has emerged as a boon to the academic community by facilitating access to a treasure of information on the web, which can be used for study, teaching and research. It is a source of current information generated all over the world. For the publication of the research output also the academic community can effectively use Internet. The academics use the Internet for knowing a subject and updating their knowledge as well. The researchers can obtain the related literature in their field of study by browsing the Internet. The Internet is also widely used in the teaching-learning process and for career search. Thus Internet provides the academic community great amount of information as well as facilities for imparting knowledge. However, to utilize potentials of Internet to its maximum, it is necessary to make the academics well versed in using it. Where content matches need (particularly in business and technology) the e-book can support the academic mission effectively, saving time and adding value as a collective

online reference resource rather than a set of individual titles. There is a definite synergy with e-learning. For libraries they require considerable staffing input but open up possibilities; for dynamic and cost-effective collection management. New products, technologies and opportunities continue to emerge, however, and the future for e-books looks bright, especially if easier on-screen reading and more flexible, customer-oriented, licensing can be realized [11]

The academics, especially researchers, need various types of databases both off-line and on-line. These databases provide the researchers required information in conducting their researches. The developments in computer and communication technologies have given rise to large-scale availability of such databases. Various electronic resources such as e-books, e-journals etc., are also widely available in the present time with the advancement in electronic publishing. Many journals are now available only in the electronic form. Accessing such resources is inevitable for the academic community to update their knowledge.

The concept of free information is changing with the increase in digital resources. The digital resources are not usually provided free of cost. For accessing digital information either through Internet or using databases usually one needs to pay a price. In a country like India where the income level of the majority of the people is low, accessing information by paying fee is not possible. The worst affected party in such case will be the academicians who need vast amount of information. The inability to pay for the information will create an information poor group. Those who are able to pay alone will get the benefits of the developments in information and information dissemination technologies. Thus, the digital divide is more visible among the academic community where the rich will become information rich as well and the poor will become information poor also.

## CONCLUSION

Against this background, we can safely conclude that there is a need to establish as many digital libraries as possible in our country. Unfortunately, still there is no significant headway in this respect in India. On the other hand, the developed countries are making tremendous progress in creating digital libraries. Keeping in view the plenty of benefits these libraries contain, today's information scientist, bureaucrats and librarians must give a thought to establish digital libraries in India.

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# A Formal Digital Library Framework and Its Applications: Streams, Structures, Spaces, Scenarios, Societies (5S)

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## INTRODUCTION

Digital libraries are complex information systems and therefore demand formal foundations lest development efforts diverge and interoperability. In this article, we propose the fundamental abstractions of (5S) Streams, Structures, Spaces, Scenarios, and Societies, which allow us to define digital libraries rigorously and usefully. Streams are sequences of arbitrary items used to describe both static and dynamic (e.g., video) content. Structures can be viewed as labeled directed graphs, which impose organization. Spaces are sets with operations on those sets that obey certain constraints. Scenarios consist of sequences of events or actions that modify states of a computation in order to accomplish a functional requirement. Societies are sets of entities and activities and the relationships among them. Together these abstractions provide a formal foundation to define, relate, and unify concepts among others, of digital objects, metadata, collections, and services required to formalize and elucidate “digital libraries”.

## 5S FRAMEWORK OVERVIEW

### STREAMS

Streams are sequences of elements of an arbitrary type (e.g., bits, characters, images, etc.). In this sense, they can model both static and dynamic content. The first includes, for example, textual material, while the later might be, for example, a presentation of a digital video, or a sequence of time and positional data for a moving object.

A dynamic stream can represent an information flow—a sequence of messages encoded by the sender and communicated using a transmission channel possibly

distorted with noise, to a receiver whose goal is to reconstruct the sender’s messages and interpret message semantics. Dynamic streams are thus important for representing whatever communications take place in the digital library. Examples of dynamic streams include video-on-demand delivered to a viewer, a timed sequence of news sent to a client, a timed sequence of frames that allows the assembly of a virtual reality scenario, etc. Typically, a dynamic stream is understood through its temporal nature. A dynamic stream then can be interpreted as a finite sequence of clock times and associated values<sup>1</sup> that can be used to define stream algebra, allowing operations on diverse kinds of multimedia streams.

In the static interpretation, the temporal nature is generally ignored or is irrelevant, and a stream corresponds to some information content that is interpreted as a sequence of basic elements, often of the same type. A popular type of static stream according to this view is text (sequence of characters). The type of the stream defines its semantics and area of application. For example, any text representation can be seen as a stream of characters, so that text documents, such as scientific articles and books, can be considered as structured streams.

### STRUCTURES

A structure specifies the way in which parts of a whole are arranged or organized. In digital libraries, structures can represent hypertexts, taxonomies, system connections, user relationships, and containment to cite a few. Books, for example can be structured logically into chapters, sections, subsections, and paragraphs; or physically into cover, pages, line groups (paragraphs), and lines.

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Structuring orients readers within a document's information. Markup languages (e.g., SGML, XML, and HTML) have been the primary form of exposing the internal structure of digital documents for retrieval and/or presentation purposes. Relational and object-oriented databases impose strict structures on data, typically using tables or graphs as units of structuring.

With the increase in heterogeneity of material continually being added to digital libraries, we find that much of this material is called "semi-structured" or "unstructured". These terms refer to data that may have some structure, where the structure is not as rigid, regular, explicit, or complete as the structure used by structured documents or traditional database management systems. Query languages and algorithms can extract structure from these data. Although most of those efforts have a "data-centric" view of semi-structured data, works with a more "document-centric view" has emerged. In general, humans and natural language processing systems can expend considerable effort to unlock the interwoven structures found in texts at syntactic, semantic, pragmatic, and discourse levels.

### SPACES

A space is a set of objects together with operations on those objects that obey certain constraints. The combination of operations on objects in the set is what distinguishes spaces from streams and structures. Since this combination is such a powerful construct, when a part of a Digital Library cannot be described well using another of the Ss, a space may well be applicable. Despite the generality of this definition, spaces are extremely important mathematical constructs. The operations and constraints associated with a space define its properties. For example, in mathematics, affine, linear, metric, and topological spaces define the basis for algebra and analysis. In the information retrieval discipline, Salton and Lesk formulated an algebraic theory based on vector spaces and implemented it in the SMART system. "Feature spaces" are sometimes used with image and document collections and are suitable for clustering or probabilistic retrieval. Spaces also can be defined by a regular language applied to a collection of documents. Document spaces are a key concept in many digital libraries.

Human understanding can be described using conceptual spaces. Multimedia systems must represent real as well as synthetic spaces in one or several dimensions, limited by some metric or presentational space (windows, views, projections) and transformed to other spaces to

facilitate processing. Many of the synthetic spaces represented in virtual reality systems try to emulate physical spaces. Digital libraries may model traditional libraries by using virtual reality spaces or environments.

Again, spaces are distinguished by the operations on their elements. Digital libraries can use many types of spaces for indexing, visualizing, and other services they perform. The most prominent of these for digital libraries are measurable spaces, measure spaces, probability spaces, vector spaces, and topological spaces.

### SCENARIOS

One important type of scenario is a story that describes possible ways to use a system to accomplish some function that a user desires. Scenarios are useful as part of the process of designing information systems. Scenarios can be used to describe external system behavior from the user's point of view and provide guidelines to build a cost-effective prototype or help to validate, infer, and support requirements specifications and provide acceptance criteria for testing. Developers can quickly grasp the potentials and complexities of digital libraries through scenarios. Scenarios tell what happens to the streams, in the spaces, and through the structures. Taken together the scenarios describe services, activities, tasks, and those ultimately specify the functionalities of a digital library.

For example, user scenarios describe one or more users engaged in some meaningful activity with an existing or envisioned system. This approach has been used as a design model for hypermedia applications. Human information needs, and the processes of satisfying them in the context of digital libraries, are well suited to description with scenarios, including these key types: fact-finding, learning, gathering, and exploring. Additionally, scenarios can aid understanding of how digital libraries affect organizations and societies, and how challenges to support social needs relate to underlying assumptions of digital libraries. Scenarios also may help us understand the complexities of current publishing methods, as well as how they may be reshaped in the era of digital libraries, by considering publishing paths, associated participants, and publication functions.

### SOCIETIES

A society is a set of entities and the relationships between them. The entities include humans as well as hardware and software components, which either use or support digital library services. Societal relationships make connections between and among the entities and activities.

Examples of specific human societies in digital libraries include patrons, authors, publishers, editors, maintainers, developers, and the library staff. There are also societies of learners and teachers. In a human society, people have roles, purposes, and relationships. Societies follow certain rules and their members play different roles—participants, managers, leaders, contributors, or users. Members of societies have activities and relationships. During their activities, society members often create information artifacts—art, history, images, data that can be managed by the library. Societies are holistic substantially more than the sums of their constituents and the relationships between them. Electronic members of digital library societies, i.e., hardware and software components, are normally engaged in supporting and managing services used by humans.

A society is the highest level component of a digital library, which exists to serve the information needs of its societies and to describe the context of its use. Digital libraries are used for collecting, preserving, retrieval and sharing information artifacts between society members. For example, focus on user's information-seeking behavior (i.e., formation, nature, and properties of a user's information need) and on the ways in which information retrieval systems are used in operational environments.

Several societal issues arise when we consider them in the digital library context. These include policies for information use, reuse, privacy, ownership, intellectual property rights, access management, security, etc. Therefore, societal governance (law and its enforcement) is a fundamental concern in digital libraries. Language barriers are also an essential concern in information systems and internationalization of online materials is an important issue in digital libraries, given their globally distributed nature.

#### **Example of Applications of Framework**

Here we will illustrate the expressiveness and unifying power of 5S through two different example applications. In the first, we build taxonomy of Digital Library concepts derived from the literature and characterize the result in light of the framework. The second application uses 5S as an analytical tool to understand and dissect a Digital Library instance and a Digital Library protocol for interoperability.

#### **DIGITAL LIBRARY TAXONOMY**

Taxonomy is a classification system of empirical entities with the goal of classifying cases according to their measured similarity on several variables. Classifications are a premier descriptive tool and as such, they give a foundation towards an explanation for phenomena.

Classifications provide a terminology and vocabulary for a field and help to reduce complexity and achieve parsimony of description by logically arranging concepts through the identification of similarities and differences. We have built taxonomy for digital libraries as a classification system of terms involved with the field. Our taxonomy describes the digital library field in conceptual terms and therefore its organization is amenable to be interpreted in the light of 5S. This interpretation aims toward a more informal conceptual understanding of the 'Ss' and corresponding Digital Library components.

In the process of building such taxonomy, we have considered the principles of taxonomies in social sciences, notably cluster analysis, and faceted classification schemes. In particular we were guided by the idea that writing about a subject unequivocally reveals the appropriate facets for that subject, and that those facets are enough to describe the phenomenon. We followed an agglomerative strategy using subjective relational concepts like association and correlation. During the construction of the taxonomy we tried to accommodate all the terms found in the literature and marginal fields, guarantee mutual exclusivity, and ensure consistency and clarity.

We must point out that, as with any classification system, our taxonomy must evolve to accommodate changes in the digital library field. However, two factors should contribute to the stability of the taxonomy, and therefore to its relative longevity. First the taxonomy was derived from a significant corpus of digital library literature; therefore it is more stable than personal opinions. Second, the higher-level groupings are significantly abstract so that they may be applied to many fields, with possible additions or changes necessary only at the level of specific categories. Clearly, such changes are likely due to the youth and rapid development of the field. In the following we describe the main facets and sub-facets of the taxonomy, making use of 5S as an analytical tool.

#### **Actors: Who interacts with/within Digital Libraries?**

In our context, actors are the users of a digital library. Actors interact with the Digital Library through an interface design that is (or should be) affected by the actors' preferences and needs. Actors, who have preferences and needs in common, display similar behavior in terms of services they use and interactions they practice. We say these actors form a digital community, the building blocks of a digital library society. Communities of students, teachers, and librarians—interact with digital libraries and use digital libraries to interact, following pre-specified

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scenarios. Communities can act as a query-generator service, from the point of view of the library, and as a teaching, learning, and working service, from the point of view of other humans and organizations. Communications between actors and among the same and different communities occur through the exchange of streams. Communities of autonomous agents and computers also play roles in digital libraries. To operate, they need structures of vocabulary and protocols. They actually sending (possibly structured) streams of queries and retrieving streams of results.

### Activities: What happens in Digital Libraries?

Activities of digital libraries — abstracting, collecting, creating, disseminating, evaluating, modeling, organizing, personalizing, preserving, requesting, and selecting — all can be described and implemented using scenarios and occur in the Digital Library setting as a result of actors using services. Furthermore, these activities make and characterize relationships within and between societies, streams, and structures. Each activity happens in a setting, arena, or space. The relationships developed can be seen in the context of larger structures.

### Components: What constitutes Digital Libraries?

Digital libraries can contain repositories of knowledge, information, data, metadata, relationships, logs,

annotations, user profiles, and documents. They can be associated with higher-level structuring and organizational materials: term lists (e.g., authority files, dictionaries), classification tools (e.g., subject headings and taxonomies), thesauri, ontologies, and metadata catalogues. These Digital communities are formed by actors who interact with a Digital Library possibly through the same interface paradigm. The actors might belong to distinct social communities of the real world. For instance, a digital community might be instantiated by the adoption of a particular architecture and interface for a Digital Library.

Knowledge organization sources are normally applied to collections of digital objects and support a number of services such as metadata-based resource discovery, query expansion with thesauri, hierarchical browsing with classification systems, and ontology-based crosswalks among disparate metadata formats and vocabularies. Finally, Digital Libraries are served by a substrate—a foundational complex amalgamation of different combinations of Ss that involves computers, network connections, file and operating systems, user interfaces, communication links, and protocols.

ACTORS	ACTIVITIES	COMPONENTS	SOCIO-ECONOMIC LEGAL ISSUES	ENVIRONMENT
<b>Distributed computers</b>	<b>Abstracting</b>	<b>Documents</b>	<b>Qualities</b>	<b>Academic Discipline</b>
Clients	Cogitating(Reflecting)	Books, digital	Accessibility	Anthropology
Servers	Comparing	Courseware	Interoperability	Archaeology
<b>Electronic agents</b>	Relating	Database	Maintainability	Business
Collection agents	Trusting	Diagrams	Scalability	Copyright law
Crawlers	<b>Collecting</b>	E-artifacts	Sustainability	Economics
Knowbots	<b>Acquiring</b>	Hypermedia	Usability	Management
Mediator agents	Digitizing/OCRing	documents	<b>Policies</b>	Publishing
User agents	Purchasing/Licencing	Hypertext documents	Billing/charging	<b>Computer science</b>
<b>Humans</b>	Crawling(focused)	Maps, digital	Pay-per-view	Databases
Administrator	Submitting	Multimedia	Copyright clearance	Graphics
Authors	<b>Creating</b>	documents	Multilingual access	HCI
Annotators	Authoring	Music, digital	Privacy	Hypertext
Designers	Transforming	Photograph, digital	Rights management	Information retrieval
Editors	<b>Disseminating</b>	Semi-structural	Security	Multimedia
Evaluators	Collaborating	documents	Authentication	Software
Funders	Filtering	Speech, digital	Authorization	engineering
Implementers	Providing Access	Structured documents	Special-needs access	Economics
Learners	Publicizing	Versions	Subscriptions	Education
Librarians	Marketing/	Video, digital	<b>Standards</b>	Engineering
Maintainers	Advertising	<b>Handles</b>	Access	Ethnography
Managers	Translating	DOIs	Description	Humanities
Patrons	Using mail/Listservs	URL/URLs,	Operation	Museum science
Publishers	<b>Evaluating/Assessing</b>	PURLs,URNs	Storage	Information science
		Knowledge	Transmission	Law

cont..

Readers	Analyzing Logos	Organization sources	Library science
Reviewers	Certifying	Catalogues	Philosophy
Tool builders	Doing action research	Attributes	Sociology
	Doing ethnographic/ sociological study	Metadata records	<b>Purposes</b>
	Leading focus groups	<b>Relationship groups</b>	Commercial services
	Logging	Ontologies	Education support
	Measuring	Semantic networks	National library
	Surveying	Thesauri	Public services
	Reviewing	<b>Terms List</b>	Training
	<b>Modeling</b>	Authority files	<b>Scope</b>
	Extracting	Classification scheme	Company
	Linking	Classification/Categorization tools	Department
	<b>Organizing</b>	Dictionaries	Discipline
	Analyzing	Gazetteers	Group
	Annotating	Glossaries	National
	Narrating	Subject heading	Personal
	Rating	Taxonomies	State
	Cataloguing	<b>Repositories</b>	Worldwide
	Training(classifier)	Collections	
	Clustering	Annotations	
	Indexing	Data	
	<b>Personalizing</b>	Facts	
	Customizing	Information	
	Recommending	Knowledge	
	<b>Preserving /Archiving</b>	Logs	
	Conserving	Relationship	
	Converting	Hyperlinks	
	Coping/Replicating	User profiles	
	Emulating	<b>Substrate</b>	
	Renewing	Communication	
	Translating	Internet	
	<b>Requesting</b>	Protocol	
	Selecting	Web	
	Binding	<b>Modules</b>	
	Browsing	Distributed system	
	Expending(query)	File system	
	Federating	Information retrieval system	
	Harvesting	Multimedia system	
	Navigating	Object databases	
	Searching	Operating system	
	Visualizing	Relational databases	
		Servers(e.i. audio, video)	
		User interface	

**SOCIO-ECONOMIC, LEGAL ASPECTS: WHAT SURROUNDS THE DIGITAL LIBRARY?**

This facet is mainly related to the societal aspects of the Digital Library and their relationships and interactions, including regulations, measures, and derivatives. It abstracts aspects surrounding the other Digital Library issues and involves policies, economic issues, standards, and qualities. For example, policies may dictate that only certain communities have the right to use specific portions of a collection. Some of these Digital Library issues can be established regarding normative structured documents.

Policies and quality control also can be enforced by specific services, for example, authentication, authorization, encryption, and specific practices (scenarios) or protocols, which can involve other communication services and serialized streams.

**ENVIRONMENT: IN WHAT CONTEXTS ARE DIGITAL LIBRARIES EMBEDDED?**

The environment involves a set of spaces (e.g., the physical space, or a concept space defined by the words of a natural language) that defines the use and the context of

a Digital Library. The environment also involves the society that sets up the Digital Library and uses it. But the environment is also how the Digital Library fits into the. Structure of community and its organization and dictates the scenarios by which its activities are performed. Those who pursue Academic Disciplines define a problem area “per se” and build a rational consensus of ideas and information about the problem that leads to a solution . Thus they carve out a space for their approaches (e.g., in terms of concepts in a domain language, etc.), and structure some subject knowledge jointly with specific scenarios that define the methods or activities used to solve their specific problems. Purposes and Scope define types of societies served by the Digital Library and determine a specific library structure

### CONCLUSIONS

This comprehensive formal framework for digital libraries – the 5S framework of Streams, Structures, Spaces, Scenarios, and Societies—shows that formal definitions allow the 5S framework to be precisely described and make it possible to clearly and formally define a minimal digital library. Ontological relationships complement the initial conceptualization to compose our theory/framework for Digital Libraries. Using that framework we demonstrate its utility: to discuss the terminology found in the digital library literature, to describe a representative digital library and the Open Archives Initiative, to formally define a set of Digital Library. To formally characterize the most typical Digital Library services, and, from that characterization, arrange a taxonomy of services which helps to reason about issues of compensability in Digital Libraries.

Moreover, we have demonstrated how to move from theory to practice by applying the framework to the problems of modeling, generating, and evaluating (by logging and assessing the quality of) digital libraries. Each of these applications is materialized in a number of forms, including: declarative specification languages, visualization and generation tools, standardized XML-based log formats, and formal Digital Library quality models.

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## Organizational Structure and Communication Pattern of Library of Agriculture College, Gwalior (M.P.)

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### ABSTRACT

*This paper is an attempt to show the details of the organizational structure and communication pattern at the Agriculture College, Gwalior. Organizational structure shows physical details of college through which we can know how the college is being run and what work is being done. Through this paper we present an organizational pattern of communication level and methods, history of Agriculture College, its objective, activities, structure, library services, research papers and other matter of general importance of Agriculture College of Gwalior which is affiliated to Jawaharlal Nehru Krishi Vishwa Vidyala (JNKVV), Jabalpur.*

### INTRODUCTION

Before entering a discussion on organizational structure and communication pattern of Agriculture College Library, we have to attempt a definition of agriculture.

“Agriculture is the Art, Science, Economics and all practice related to cultivate the land and rearing of the animals of land and water. We have to include sky also as the bird, climate, satellite technology etc. Are also the concerns of Agriculture”.

Agriculture sector is the main source of economy for large number of people residing in rural area of the country. Indian's rural population consists of farm laborers (52%), artisans (30%) and other (18%). Agriculture contribution is

nearly 25% of gross domestic product (GDP) and about 70% of Indian population is dependent on Agriculture for their livelihood.

Agriculture Universities, Colleges, Research Institutes are playing an important role in teaching, research & extension and R&D in Agriculture. To supplement their activities libraries and Information centers have been active as nerve centers by providing valuable information support.

Jawahar Lal Nehru Krishi vishwa Vidyala (JNKVV) was established in 1967. The University was established by an Act of State Legislature Jawahar Lal Nehru Krishi vishwa Vidyala Act 1963 (No. 12 of 1963). The Government of MP transferred 09 Agriculture and 03 Veterinary College

## ORGANIZATIONAL STRUCTURE AND COMMUNICATION PATTERN OF LIBRARY OF AGRICULTURE COLLEGE, GWALIOR (M.P.)

Research Institutes and 16 Research Farms of the State along with the staff to the university.

The University has 13 constituted colleges, 09 Agriculture College at Jabalpur, Rewa, Sehore, Indore, Gwalior, Mandsour, khandwa Tikamgarh & Ganj Basoda and 03 veterinary Colleges at Jabalpur, Mhow & Rewa and one Agriculture Engineering college at Jabalpur.

### AGRICULTURE COLLEGE, GWALIOR

The College of Agriculture, Gwalior was established in the year 1950 and celebrated its Golden jubilee in the year 2000. However the research farm (Central Agriculture Research farm) was established in 1916. Since the beginning the research on varieties improvement, crop production, nutritional requirements, plant protection and soil amendment leaned heavily towards applied aspects and has already paid rich dividends to the Agriculture of North West MP and its economy as a whole.

The College of Agriculture Gwalior is located in Grid Zone. The zone falls in Jowar – wheat crop zone of MP. It lies between latitude 760 to 790 E with MCL varying from 152 to 529 meters. Chambals, Pravati and Sindh are important rivers in this zone. Most of the soils the zone belongs to alluvial group.

The maximum temperature during summer reaches up to 47 degree C and minimum up to 2 degree C in winter. The average annual rainfall in the zone is 751mm.

Wheat, rapeseed, Mustard Gram, Soya bean, Pearl-Millet, Sorghums, paddy, groundnut and coriander are the principal crops of the zone.

### OBJECTIVES OF THE STUDY

The main objectives of the study were-

1. To analyze the present organizational setup of a library.
2. To suggest the setup for efficient working
3. To analyze the communication technique adopted
  - (i) By Library
  - (ii) By users of Library
4. To know the area of requirement of users.

### SUBJECT AND COVERAGE

This paper deals mainly with matters related to the organizational structure and communication pattern of

agriculture University library and College of agriculture Gwalior.

The University Library at Jabalpur and College of agriculture Gwalior are as sample for this study. We cover all field of Agriculture and related to Agriculture.

### ORGANIZATION STRUCTURE

Organizations are established for the explicit purpose of achieving certain goals, and passes both rules and a formal structure with clearly market lines of communication and authority. Defining and classifying of posts, their relationship with each other and ensuring proper communication.

Organization structure is capable of serving many functions. The important four functions which are special importance include:

- a. providing an efficient work system;
- b. second providing a system of communication;
- c. providing satisfaction to individual members of the organization and
- d. fourth providing organizational and individual identities.

Organization Structure of Agriculture College Gwalior:

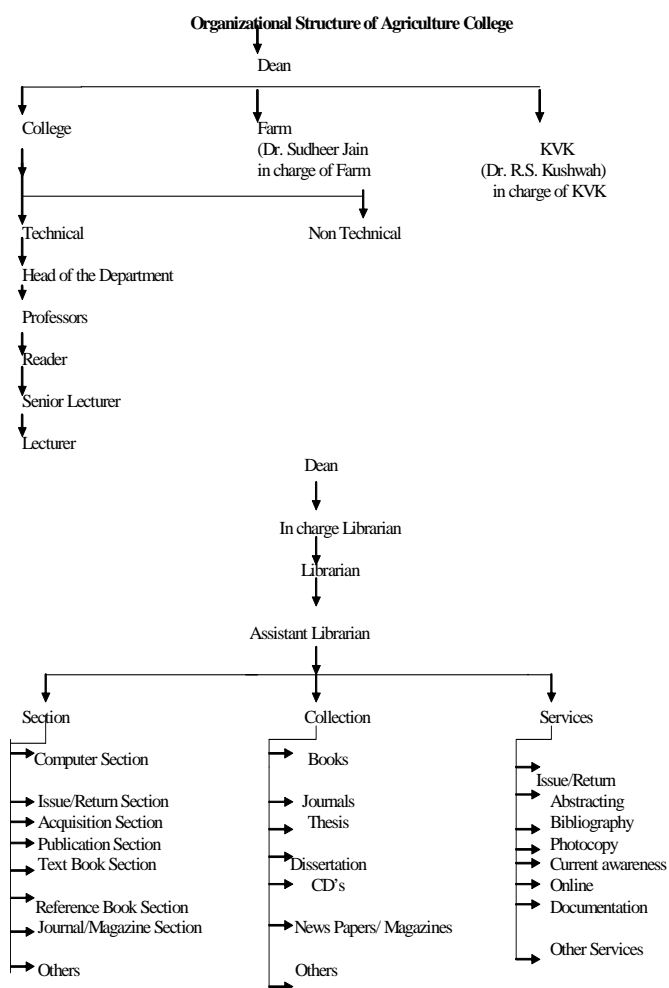
The College of agriculture Gwalior is run by Jawahar Lal Nehru Krishi Vishwa Vidyala (JNKVV), Jabalpur. Total (technical and non technical) staff strength is 103; total no. of student in UG & PG is 383 and total budget of this college is 2300000 and library budget is 200000.

Dean is the mail part of college. This Structure has three sector- college, farm and Krishi Vigyan Kendra(KVK). Whole work of this college is done by technical & non-technical staff. Head of the department, Prof. Reader, Senior Lecturer, Lecturer are come under technical department. Non-technical staff just likes registrar, accountants, lab technician. Clerk, Librarian etc.

### *Organizations Structure of Agriculture College Library:*

Library is the heart of the college. For the smooth running of any educational organization, library should be rich in its content and staff should be well qualified and knowledge should be upgraded time to time.

The structure of the Agriculture College Library is divided into three parts first: section of library second: collection of library and last is services of library.



## SECTIONS

The important sections of library of Agriculture College, Gwalior are computer section, Issue return section, Acquisition, Publication, Textbook, Reference book, Journal/Magazine and other section. There are computer in computer section and the users can also search information through Internet connectivity. V set is also provided in computer section. Through this users can connect with Indian Agriculture Research Institute (IARI) and Indian Council agriculture Research (ICAR) for seeking useful information. Database reference CD is also available in this library.

## SERVICES

Many services are provided through Internet and manually in Agriculture College Library. Translation, Reference Service, Photocopy, Abstracting, online surfing through internet and other services is main services.

## COLLECTION

Agriculture College Library has following types of collection

- General books = 21729
- Books in book bank = 10039
- ST/SC student books = 3483
- For OBC = 898

Following CD's are also available in the library

1. Crop CD
2. Tree CD
3. Soil CD
4. National and International journals are also available in the Library.
5. 30 magazines are available in the Library.
6. Research papers, Project, Dissertation, abstract, Thesis, Newspaper etc. collection of Library.

## COMMUNICATION

Communication refers to sharing of ideas, opinions, information and understanding. In this case the information is passed from the sender to the receiver and the knowledge of its effects is passed from the receiver to the sender in the form of a feedback.

## ACCORDING TO PETER DRUCKER

Good communication is the foundation for sound management. The managerial function of planning, organizing, directing and controlling depend on communication in enterprises. The various types of communication facilities in Agriculture College includes Intercom, Telephone, Telex, Fax, Satellite, Email, Internet, other Mobile, Photocopy etc.

**ACTIVITIES**

**a. RESEARCH/PROJECTS**

Problem specific need based research in being done by the following research institute under the over all supervision and guidance of the college.

- Central Research Institute, Gwalior (1916)
- Zonal Agriculture, Research Station Morena (1981)

**b. MANDATE RESEARCH (GRID ZONE)**

**Gwalior:** Lead Wheat management, wheat improvement (irrigated) pearl millet and coriander.

**Verification:** Forage, arid legume, mango and guava

**Morena:** Lead- water management, grapping pattern in Chambal command & rope seed mustard.

**Verification:** Pearl millet, pigeon pea, gram, Lentil & wheat  
**All India Coordinated Research Project**

S.No.	Title of Project	Year of Start
1	AICRP on Wheat Improvement, Gwalior	1976
2	AICRP on Arid Legume, Gwalior	1981
3	AICRP on Water management, Morena	1983
4	AICRP on Pearl millet, Gwalior	1986
5	AICRP on Rapeseed mustard, Morena	2000
6	Weed management, Gwalior	2000

**State Plan/Non Plan Research Scheme**

S.No.	Title of Project	Year of Start
1	Establishment of regional research station	1964
2	Improvement of millet	1963
3	Soil testing laboratory	1959
4	Intensification of research on mango, guava & citrus	1964
5	Intensive Extension and research project phase-2	1980
6	MPWSRP	2006

**SALIENT ACHIEVEMENT**

The following varieties were developed and released / are in pipeline

- o Rapeseed and mustard: Jm2 and Jm3 (resistant to white rust)
- o Strain Jmm 927 resistant to aphidian pipeline
- o Pearl millet: JBH2, JBV2, JBV3, JBV4(pre.rel).
- o Wheat: Mp 4010(JNGW 9 & JHW 4 Pre.Rel.).
- o Coriander: No. 53656 and Jawahar Dhania-1.

**c. CONFERENCE/SEMINAR**

The College holds conferences and seminars time to time. Researchers and scientist have achieved much authentic information through seminars and conferences:

S.No.	Seminar Topic	Subject	Year
1	Bio efficiency of some plant extracts against gram pod borer, <i>Hilcoverpa armigera</i>	Entomology	2005
2	Diversity analysis of selected gram plans in Indian Mustard	Entomology	2006
3	Integrated weed management in Pea	Agronomy	2007
4	Efficacy of plant extracts against pulse beatly <i>collosobrachus maculates</i> in storage	Entomology	
5	Studies on anthracnose of Guar caused by <i>Calletotrichum caprici</i> (syd.) cutter and Bisby F.Sp. <i>cyamopricola</i>	Plant pathology	2006

**d. SERVICES**

Agriculture college library provide many services like Reprographic services, Document delivery services, Resource sharing, Abstracting services, Issue return services etc.

**e. EXTRA CURRICULAR ACTIVITIES**

College conducts many cultural activities like kathak, drama, seminar, debates etc. from time to time.

**MEMBERSHIP WITH NATIONAL & INTERNATIONAL CENTER**

College has taken membership of library of following organizations:

- IARI (Indian Agriculture Research Institute)
- ICAR (Indian Council Agriculture Research)

**COORDINATION AND RESOURCE SHARING**

Through Coordination and Resource Sharing with many

famous institutes and Research centers users and students get important and valuable information regularly and without difficulties..

### CONCLUSION AND SUGGESTIONS

Agriculture College of Gwalior has completed its 56 years. The institute has adopted the organization structure which is shown in the flow chart.

This institute has focused on communication pattern too. We would like to suggest on the basis of this study that.

1. The networking facility at the college is not in the best condition & proper attention should be given to improve it.
2. The college is running its library manually in present state. It must introduce library software in order to make library fully automotive for its efficiency.
3. The institute should make efforts to get the membership from national & international communities aware of current research.

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# Growth and Development of Public Library System in India with Special Reference to Tamil Nadu

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## 1.0 INTRODUCTION

Ever since human civilization dawned on this globe of ours, library, in some form or other though not in the present shape, existed. It is said that no country in the world can progress without providing free public library services to the citizens. It is therefore imperative on the part of the democratic country like India to establish the service institutions like public libraries in order to strengthen the democratization of information. Thus the basic objective of public library is to promote the social cultural, historical and scientific and technical knowledge in the public at large.

## 2.0 GROWTH AND DEVELOPMENT

The first phase in the development of public libraries in India started 1808, stated in the year when the Bombay Government initiated proposal to register libraries, which were to be given copies of books published from the 'Funds for the Encouragement of Literature'. By the middle of the 19<sup>th</sup> century, three presidency towns of Bombay, Calcutta and Madras has their public libraries, founded mostly with the active support and initiative of the Europeans. Of these, the establishment of public library at Calcutta in 1835 was the most significant. This was the library which later developed into the National Library of India.

The first three decades of the 20<sup>th</sup> Century can be marked as the golden period of Indian Library System. On 31<sup>st</sup> January 1902 the Imperial Library Act was passed and Lord Curzon transformed the Calcutta Public Library into Imperial Library in 1906. The another two important landmarks in the pre independent history of public libraries in India are:

- a. Baroda State Public Libraries Network of late Shri Sayajirao Gaikwad III of Baroda. He invited Mr. M.A. Borden, an American Librarian in 1910 to introduce a

scientifically organized free and open access public Library system. He established statewide free public library network in the state.

- b. Organization of Library conferences: Series of conferences were organized in continuation of the Indian National Congress sessions. A few of them are mentioned below:

- The first conference of library workers and persons interested in the library movement was held at Beswada, Andhra in 1914.
- The first All India Library Conference of Librarians was held in 1918 at Lahore.
- The first All India Library Conference was held at Calcutta in 1933.
- The first All India Public Library Conference was held at Madras in 1934.

## 3.0 AFTER INDEPENDENCE

After independence the growth of libraries in general and public libraries in particular have been remarkable. But it is observed that the development of public libraries compared to the growth of other types of libraries is sluggish, even poor on many accounts such as information resources, services to mention a few..

## 4.0 NATIONAL LIBRARY

The origin of National Library, Calcutta can be traced to the Calcutta public Library, which came into existence around 1836. The Calcutta public library and an imperial library formed in 1881 were amalgamated in 1903 to become the imperial library of colonial India and finally named the same as a National Library by the central government of India in 1948.

#### 4.1 First Five Year Plan (1951–1956)

Improvement of library services was mentioned in this plan to develop for educational system. The essence of the plan was to establish district libraries in each state, which were to be supplemented by a state central library. The government of India also initiated a scheme, “Integrated Library Service,” with the support of the state government. The scheme targeted units in every area selected by the governments for intensive educational development. The experimental project was meant to monitor the impact of a number of educational institutions in areas covering 100 villages. Each area was to have five model community centers, plus a main library with branches to distribute books to 20 villages. This pilot project was implemented in 29 areas in the country. Nine states made plans to open state central libraries, and some others were in the process of setting up district libraries in about 100 districts. This cost approximately Rs. 10 million, of which nearly two-thirds was contributed by the government of India. Thus, libraries were considered to be an essential part of the Community Development Program that was launched during the first plan period.

Other important developments included in first five year plan were establishment of the Delhi Public Library in 1951, Central Reference Library in Calcutta was established in 1955. Connemara Public Library, in Madras (1896), The Cannemara public library became the State Central Library(it became one of the three depository libraries) in 1950 under the provisions of the Madras Public Libraries Act of 1948; in 1955,. At the end of March 1954, the country had 32,000 libraries with a book stock of about 7.1 million volumes; an amount of Rs. 9 million was spent on library services. By 1951, the level of literacy had risen to 18.33 percent.

In 1954, the Delivery of Books Act was passed (it was amended in 1956 to include newspapers as well). The act obligated every publisher in India to deposit a copy of its publication with the National Library in Calcutta; the Asiatic Society (Central) Library, Bombay; Connemara Public Library, Madras; and the Delhi Public Library. On the basis of books received under this Act., India has a national bibliography, which is published by the Central Reference Library, Calcutta. The bibliography, however, does not include textbooks, musical scores, maps, and atlases.

#### 4.2 Second Five Year Plan (1956–1961)

This plan contained the same provisions as in the first plan, plus additional provisions for establishing integrated library

service. There were three objectives for establishing integrated library services

- a. First, state and district libraries were to be set up in each state.
- b. Second, the library services were to be organized on the basis of legislation.
- c. Finally, district libraries were to form the link between the state central library and village libraries.

As a result, nine states in India established state central libraries and 254 district libraries.

During this plan period, a total of Rs. 2.040 billion was spent on educational development, of which Rs. 9 million was spent on library development. Even though Rs. 18.6 million was provided, the states only used 48.6 percent of this amount. Thus, the number of libraries nearly doubled in 1964 as compared to 1951, and the expenditure on public libraries in this period increased three-fold. According to a UNESCO report published on the occasion of the Public Library Seminar held at Delhi in 1955, India had 24,086 public library service points at the time. The level of literacy in 1961 increased to 28.31 percent.

The Advisory Committee for Libraries was appointed in 1957 by the Government of India, with K.P. Sinha as the chairman. The committee drafted a Model Library Bill and drew up a 25-year plan. In 1959, the committee submitted a report. Some of the recommendations, of the report were:

- Enact library legislation, in all constituent states, to establish public libraries;
- Build nationwide library service with detailed suggestions for financing through the state and central governments;
- Extend public library service to the blocks, panchayats, and villages; and, Create an independent Department of Social Education and Libraries.

#### 4.3 Third Five Year Plan (1962–1967)

During this plan period, the system of central government assistance to the states was changed, and funding for libraries was kept to a bare minimum. Thus, it was up to the individual states to take the initiative and develop their public libraries. With the beginning of this plan period, the scheme to assist state governments in establishing state

central libraries, district central libraries, and block development libraries was abandoned. The central government decided to let the states decide on the development; the decision was a major setback that hindered the development of public libraries.

During this plan period, four national libraries were to be established at Delhi, Calcutta, Bombay, and Madras. District-level libraries were to be established in all the states. A sum of Rs. 32.3 million was made available to the states for this purpose. Library legislation was passed in two states during this period: Karnataka in 1965, and Maharashtra in 1967.

#### **4.4 Fourth Five Year Plan (1969–1974)**

In 1972, during this plan period, the central government established the Raja Rammohun Roy Library Foundation. The foundation was created as an autonomous body under the Department of Culture, controlled by the Ministry of Education, for the development of public libraries in India. This foundation matches the funds of the states for purchasing furniture and books, organizing conferences and seminars, and providing mobile library service to the rural areas.

#### **4.5 Fifth Five Year Plan (1974–1979)**

An adult education program was the emphasis of this plan. The program was to be supported by a network of libraries at the village and block levels, and various community centers. Thus, steps were taken to strengthen not only the village and block libraries, but also the central, state and the district libraries. The states were assisted by the Raja Rammohun Roy Library Foundation established in 1972. During this plan period, the amount of Rs. 15.620 billion was allocated for general education, and Rs. 350 million was budgeted for social education. The only state that enacted a public library law during this plan period was West Bengal, in 1979.

#### **4.6 Sixth Five Year Plan (1980–1985)**

This plan emphasized minimum essential education for all adults, to be achieved by inter-sectoral cooperation and inter-agency coordination. These efforts were to be supported by post-literacy, continuing education through a network of rural libraries as well as instructional programs conducted through mass communication media. The amount allocated for general education was Rs. 21.622 billion. The art and culture component was Rs. 839 million.

#### **4.7 Seventh Five Year Plan (1985–1990)**

During this plan period, the Planning Commission's objective was to address the needs of 90 million people, ages 15–35, in the Adult Education Program. The network of libraries was to play a role in the development of literature for neoliterates. Library systems were to be strengthened with specific attention given to improvement of facilities at the national-level institutions. An important development during this period was the 1986 adoption of the National Literacy Mission (1986), which emphasized the education of women and the establishment of rural libraries. During this plan period, states like: Manipur (1988), Assam (1989) Haryana (1989), and Kerala (1989) passed library Acts

#### **4.8 Eighth Five Year Plan (1992–1997)**

Universalization of elementary education, eradication of illiteracy in the 15–35-year age group, and strengthening of vocational education in relation to emerging needs in urban and rural settings were the major thrusts of the plan. The money allocated for this period for general education is Rs. 168.133 billion; for art and culture, Rs. 7.276 billion has been allocated. The major goal of the plan was to be achieved by using formal, non-formal, and open channels of learning. The plan states that in those states with an advanced library system, rural libraries should become the focal points for post-literacy and continuing education programs.

#### **4.9 Ninth Five Year Plan (1997–2002)**

During this plan, the National Library, Kolkatta, undertook several major initiatives to upgrade and modernize its collection building programme, reader services, and conservation of library material. The major activities completed during the period were automation of the circulation system in the lending section, setting up of a local area network, improved reader services, and more efficient collection management. The conservation activities in the library got a major advance with the purchase of modern equipment to preserve rare books and other materials. The Central Reference Library, Kolkatta computerized various functions during the Ninth plan.

#### **4.10 Tenth Five Year Plan (2002–2007)**

The Tenth plan focused on upgrading existing libraries, including private collections, and widening the programme for bibliographic control and documentation. The Government of India has established National Knowledge

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commission. The National Knowledge commission offers guidelines for networking of public libraries. This project should be completed by 2011. The Library associations are now active spreading the Information Literacy competency for the librarians and library users. During 2005 ILA recommended in its 51<sup>st</sup> conference “forming a National Information Literacy Mission and the National Information Literacy Task force to implement IL competency development programmes throughout the country”.

#### 4.11 Eleventh Five Year Plan

The development of Public Libraries in the Eleventh Plan includes Rural Public Libraries and provision for handicapped and under-privileged in District Libraries. A National Library Mission will be set up. National, State/district libraries will develop special collections and technological support for visually challenged and hearing-impaired.

#### 5.0 Library Legislation : Present Status

Several attempts are being made by individuals and library associations to provide public libraries under law. Apart from Dr. S.R. Ranganathan, a number of individuals spent their time and energy to put on the statute book for public library laws. Notable among them are Kumar Munindra Deb Rai Mahasai(Bengal), K.V. Krishna Swamy Iyer, T.R. Venkataraman Sastry, Basheer Ahmed Sayeed (Madras), M.V. Donde (Bombay), K.M. Ujalambkar(Hyderabad) and D.R. Kalia (Delhi) P.N. Kaula(Delhi).

It is only after India's independence that, Dr. Ranganathan's dream of public Library Act enactment was fulfilled. Through the good offices of the then Minister for Education, Avinaslingam Chettiar, a modified Bill was introduced in the state legislature which was passed as the Madras Public Libraries Act in 1948. Since then the following twelve States have enacted library acts for their respective states:

- 1) Tamilnadu Public Libraries Act, 1948 having provision for library cess (10%) on property tax;
- 2) Andhra Pradesh Public Libraries Act, 1960 having provision for library cess (8%) on lands and buildings;
- 3) Karnataka Public Libraries Act, 1965 having provision for library cess (6%) on lands, buildings, vehicles and profession;
- 4) Maharashtra Public Libraries Act, 1967 - No library cess - State Government meets the expenditure;

- 5) West Bengal Public Libraries Act, 1979 - No library cess - State Government meets the expenditure;
- 6) Manipur Public Libraries Act, 1988 - No library cess;
- 7) Kerala Public Libraries Act, 1989 having provision for library cess (5%) on property tax and not less than 1% of State expenditure on education;
- 8) Haryana Public Libraries Act, 1989 - Local bodies to levy cess;
- 9) Goa Public Libraries Act, 1993 - Surcharge on IFML @ 0.50 ps. Per ltr. And 0.50 ps. On bulk bear per ltr. And 1% on State Education Budget;
- 10) Mizoram Public Libraries Act, 1983 - No library cess - State Govt. meets the expenditure;
- 11) Gujarat Public Libraries Act, 2002 - No library cess;
- 12) Orissa Public Libraries Act, 2002 - No library cess.
- 13) Uttarkhand Public Libraries Act, 2005
- 14) Rajasthan Public Libraries Act, 2006
- 15) Uttarpradesh Public Libraries Act, 2006
- 16) Bihar Public Library & Information Centres Act, 2008
- 17) Chaatisgarh Public Libraries Act, 2008

It is hearting to note that the major states in terms of population and other natural resources like Madhya Pradesh, Rajasthan and Punjab have no library legislation. No professional force is able to motivate the state governments in this direction.

#### 6.0 RAJA RAM MOHAN ROY LIBRARY FOUNDATION

The most remarkable phase of the library movement in our country is the year 1972 when the Raja Ram Mohan Roy Library Foundation was established by the Government of India, in memory of the great social reformer, Raja Ram Mohan Roy, who stressed the need for the modern education for the progress of the nation. The Foundation was established to spread library services all over the country in active co-operation with State Governments, Union Territory Administrations and Voluntary Organisations (NGOs) working in the field, to give an everlasting push to the library movement in the country.

The creation of the Raja Ram Mohan Roy Library Foundation in the year 1972 as the nodal agency by the Government of India to promote and support public library

## GROWTH AND DEVELOPMENT OF PUBLIC LIBRARY SYSTEM IN INDIA WITH SPECIAL REFERENCE TO TAMIL NADU

movement and to take the library movement to the grass-root level is the latest measure adopted by the Government for providing of public library services in the country. The Foundation dedicated itself to do this noble job with the slogan "Books For The Millions At Their Doorsteps", with the operation of several schemes of assistance as given below :

### 6.1 Matching

- Assistance towards building up of adequate stock of books;
- Assistance towards development of Rural Book Deposit Centres;
- Assistance towards organization of seminars, workshops/book exhibitions etc;
- Assistance towards storage and display of books;
- Assistance to public libraries below Dist. Level for increasing accommodation;
- Assistance to acquire TV-cum-VCP to public libraries/computer for computer application in public libraries.

### 6.2 Non- Matching

- Assistance towards adequate stock of books;
- Assistance to centrally sponsored libraries;
- Assistance to voluntary organizations providing public library services;
- Assistance to Children libraries or children section of general public libraries;
- Assistance to libraries towards centenary celebration.

On analysing the trend of assistance rendered by Raja Ram Mohan Roy Library Foundation in the course of 28 years, it is found that the lion's share of assistance which is nearly Rs. 11.00 crores in the current year goes for the rural people of our country. There is no doubt that Raja Ram Mohan Roy Library Foundation's programme of assistance is most helpful to the cause of public library services in the country. The programme provides the best example of resource sharing between the centre and the state for the development of public library services at all levels. The Foundation has taken long strides in promoting library service in the country. During the last 28 years, the Foundation has covered, out of 60000 public libraries located in the country in a scattered

way, more than 31000 libraries at different levels. Following is the statistics of RRMR Foundation coverage:

State Central Libraries	28
Divisional and District Libraries	451
Sub-Divisional/Taluka/Tehsil Libraries	501
Town & Rural Libraries	29820
Nehru Yuvak Kendras	272
Jawahar Bal Bhavans	49
Others	128
<b>Total</b>	<b>31249</b>

## 7.0 PUBLIC LIBRARY SYSTEM IN DIFFERENT STATES OF INDIA

### 7.1 Public Library System in Tamil Nadu

Public Libraries are established in Tamil Nadu under the provisions of the Tamil Nadu Public Libraries Act, 1948. At present there are 3755 libraries in various categories are functioning in the state. The statistics of the various categories of library of the state are as follows:

1	State Central Library ( Connemara Public Library)	1
2	District Central Libraries	30
3	Branch Libraries	1567
4	Village Libraries	1492
5	Part-time Libraries	653
6	Mobile Libraries	12
<b>Total</b>		<b>3755</b>

In order to make the Library Movement as a public Movement and to develop the reading habits among the Public, a reader's forum called "Vasakar Vattam" is formed for every library comprising of educationists, readers and local prominent persons, etc. This Forum is regularly conducting book review, literary meetings, Independence Day, Republic Day, National Library Week, National Leaders' Birth Day Celebrations etc., regularly to promote the public library system..

The Raja Ram Mohan Roy Library Foundation, Kolkata is rendering financial assistance under matching and non-matching scheme to the states for developing library service.

S. THANUSKODI

The Public Libraries Department in Tamil Nadu is availing the maximum assistance of Rs.300 lakhs every year from the Foundation. The financial assistance is utilized for purchase of Books, Computers, Book Racks, Training programme, construction of Library Buildings, etc.,

Civil Service Study Circle” has been started in District Central Libraries and Branch Libraries located in Corporation /Municipal areas. There are 150 Civil Service Study Circles are functioning at present.

## 7.2 Connemara Public Library

The vision of the Connemara Public Library is to preserve the old and rare books, newspapers and periodicals by copying them in CD and to impart training in information Technology to enhance the service ability of the staff of the Library, for providing right information to the right readers in right time.

The Connemara Public Library is the State Central Library under the provisions of the Tamil Nadu Public Libraries Act, 1948. The Library is also functioning as one of the National Repositories under the Delivery of Books ( Public Libraries) Act, 1954 and it is eligible to receive one copy of each publication including Newspapers and periodicals published in India as free of cost from the publishers. The Library also serves as the Information centre for United Nations and Asian Development Bank Publications.

It has collection of 6.36 lakhs of books. The services of the Connemara Public Library has been fully computerized. There are about 1000 readers are coming to the Library daily and the members by this Library is 93,685 as of now. The lending of books in a year is about 1.75 lakhs and about 475 books per day.

- The Library has facilities to preserve the Books, Periodicals and Newspapers in CD through Book Scanners and Paper Scanners.
- The Library has e-library facilities with 10 computers to read and download copies of old and rare books available at Internet.
- A separate Multimedia Section with 10 computers is functioning exclusively for the benefit of students to gather required academic information form Internet and Educational CDs.

- A well stacked Text Book Section for the benefit of the college students and a well established Civil Services Study Circle with required books and periodicals for the benefit of those preparing for various competitive exams are functioning in the Library.
- In order to get all Tamil Publications under one roof, a Permanent Book Park with the support of Book Sellers and Publishers’ Association of South India is functioning in the Connemara Library Campus.

Tamil Nadu Public Libraries Act is indeed a milestone in the library history of the country for its vitality.

The new information revolution has absolutely emphasizing the professionals to redefine the concept and role of library and librarians. Information storage and retrieval devices of recent time have promised enormously the task of selecting ordering and dissemination of vast amount of information, when libraries are facing the financial crunch. Accessing the information through networks saves time, money and space. The time is ripe to convert the public libraries as community information resources centers rather than a mere collection of books. This can be done introducing rapid computerization of libraries. Networking has to be established amongst all types of libraries at all levels. At present computerization of Public libraries is in progress but progress is slow.

## 8.0 CONCLUSION

The main reason of public library movement not reaching the take-off stage is the acute paucity of funds. It was suggested by a committee of experts that 10% of the education budget should be earmarked for the development of Public Library system in a state. We require more funds because the number and variety of documents being published both in our country and abroad has multiplied phenomenally. The public library authorities and public librarians should impart information literacy competencies to the public library users. The importance of public libraries would be felt more strongly, if the public libraries attract common citizens and younger generations and public librarians meet the information needs of all users.

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# Status of School Libraries in Kurukshetra: An Analytical Study

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and

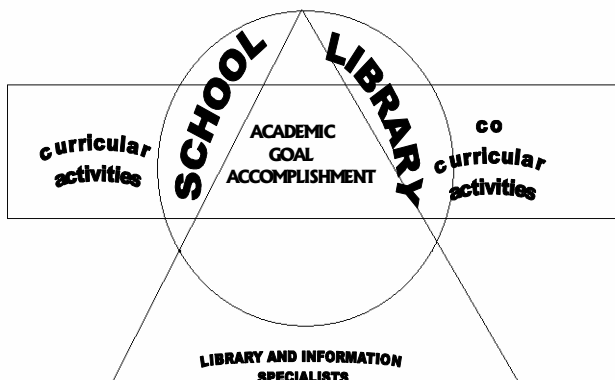
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## INTRODUCTION

Education is a process of learning with the objective of developing effective skills and capabilities in the people at all levels. In this life long process, academic institutions play an important role. During last sixty years after independence, a number of changes and modifications are introduced in Indian Education System so as to improve the quality of education and make it more relevant to the country's requirements. In all these efforts to modernize our educational system considerable thought and attention have been given to the planning & development of academic libraries especially to the school libraries as school provides the fundamental base to one's education process.

The result of all these efforts, school library is regarded corner stone of the school community- a centre of both teaching and learning programmes. By providing teachers and students with a full range of print and electronic resources, these libraries support teaching, learning and other educational functions appropriate to their parent institutions. The school library is a gathering place for pupils of different ages and interests to explore the world around them through creative thoughts and ideas. A direct relation exists between standard of school library and accomplishment of students' academic goals.



## INFLUENCE OF SCHOOL LIBRARIES ON ACADEMIC GOALS.

School library being place of opportunities provides quality collection in print and online, to support both curricular and co-curricular needs. Library provides such an environment where students either individually or in groups may work on developing the powers of mind, cultivating right interests, attitudes and moral and intellectual values. Information specialists play the role of partners in educating students, developing curricula and integrated resources into teaching and learning programmes. They teach students necessary skills to become effective users of ideas and information.

An effective library must

- Offer a wide range of reading material
- Cost effective as one book is used by many users
- be accessible to the whole school community
- keep latest and up to date collections through frequent addition of new material
- offer a broad range of materials-reference, fiction and non-fiction
- staffed by well qualified library personnel
- Must develop love of reading, quest for knowledge and thirst for life long learning.
- have a positive impact on students' academic achievements

The school library movement in Indian scenario is far from the laid down standards and norms. Though the new educational policy of 1986 made appropriate changes and modifications to improve quality of education at all levels, yet the scope for improvement in terms of their effectiveness is quite wide. The school library should have a very

## STATUS OF SCHOOL LIBRARIES IN KURUKSHETRA: AN ANALYTICAL STUDY

vigorous extension programme to make them effective. At present 757 Govt. and 112 private recognized primary, middle and secondary schools are imparting education to more than 1,37,000 students in Kurukshetra district of Haryana. A large number of students from nearby villages come everyday to Kurukshetra to get themselves educated. In this sense, school library is considered a vital component and integral part of entire education process. Considerable measures and programmes should be introduced to the planning and development of self-learning institutions and school libraries at all levels in Kurukshetra.

### OBJECTIVE

There are number of academic institutions (schools, colleges and university) in Kurukshetra of which schools play a crucial and relevant hand to build up the personality, character and intelligence of students. Some of these schools are started by central or state government while others are run by private governing bodies having large difference in their infrastructural facilities.

This study has been conducted to know the current status of school libraries at Kurukshetra, keeping following objectives in view:-

- To study the availability of physical infrastructure and resources like space, furniture etc.
- To study collection and collection development policy
- To determine status of automation of library system and services
- To identify staff structure
- To identify various type of library services.

### SCOPE

At present, the educational scenario in Kurukshetra is transforming rapidly. During last few years, a good number of public schools have started, providing educational opportunities to all. However the present study is conducted on thirteen school libraries in Kurukshetra. It includes two govt. Primary schools, one Govt. Secondary School and ten public school run by management of various educational societies and trusts.

### PHYSICAL STRUCTURE

It is very shocking to know that in government schools in Kurukshetra there is no provision of library services at all.

Public schools also do not have a separate library building but libraries are housed in one of the rooms of school building. Five schools viz. Dayanand Anglo Vedic, Aggarsain Public School, Gita Niketan Awasiya Vidyalaya, Maharana Pratap Public School and Greenfield Public School have better physical structure where books are properly placed in stacks with proper sitting and lighting arrangements. Only one school Gita Niketan Awasiya Vidyalaya has separate room for librarian. In other school libraries there is lack of space for stack/ collection and reading section. There is no sufficient and proper furniture which causes inconvenience to the students and staff. The room being used as school library is not selected with proper understanding of needs of users, objectives and functions of school library.

### COLLECTION DEVELOPMENT

Good collection of books and other documents in any school library helps to create an environment for sound teaching and other educational activities. A well balanced collection is the backbone of every academic library. Only two libraries of Dayanand Anglo Vedic and Aggarsain Public School of Kurukshetra have the collection of text and reference material both in print and non-print form. Most of the libraries don't have any collection policy keeping in view the requirements of students, faculty and non-faculty members. Major part of collection consists of specimen material provided by publishers for recommendation purposes and don't cover a balanced combination of subjects. Even the daily news papers and general magazines are not received by most of the schools. Four school libraries of DAV, Maharana Partap Public School, Aggarsain Public School and Greenfield public school procure four news papers and have a good collection of latest magazines. In most of the schools the provision of audio visual material and periodicals is not directly under the charge of librarian.

### STAFF

The optimal use of best infrastructure and resources created by any organization is possible only with the recruitment of sufficient and qualified trained Staff. Staff plays an important role in achieving the objectives of any organization. In schools, library staff collaborates with the teachers to meet information needs of students. Staff structure in school libraries of Kurukshetra is not satisfactory. Only in four school libraries of DAV, Aggarsain Public school, Gita Niketan Awasiya Vidyalaya and Maharana Partap Public School, qualified librarians with

professional education in library and Information science are there. In rest of the schools under study, library is handled by one of the teachers who has no qualification of library science. Although the post of librarian is created at the time of school's establishment but these are never filled.

### SERVICES

School library services must be closely integrated with teaching and learning process. It is noticed that libraries under study are providing very limited services. In most of the schools, students come to library only for reading purpose and there is no provision of circulation of knowledge material. Library remains open only during school time and register system is used for charging and discharging purpose. There is no provision for reservation and re-issues of books and books are once issued for 14 days. So due to limited manpower and financial constraints, library functioning is highly hampered.

### AUTOMATION

In library and information field, the users services within minimum time with maximum satisfaction has been accepted as the goal of library services. To achieve this, computers are being used in information handling, storage, organization, dissemination and retrieval services of libraries. But only school libraries of DAV and Agarsain Public School have computerized their services for circulation purpose. In Maharana Pratap Public School, library is going to be computerized in near future. While in other schools either due to lack of manpower or financial resources, concept of computerized library is not introduced. The managing authority should prepare some plans for computerization of school libraries as soon as possible.

### CONCLUSION

On the whole, current status of school libraries in Kurukshetra is not satisfactory. The survey conducted shows that these libraries are lacking some of the important features like good collection of text and reference books, infrastructure, proper environment and the most important concern of the authority for library development. In the present era all efforts should be made to inculcate the reading habits among children at school level and it is

possible only with well developed libraries at primary and secondary level. Qualified staff should be recruited to manage the libraries as these are looked after by any teacher who is not properly trained and qualified to manage and serve the library. Library buildings should be well furnished and calm reading environment should be provided. Rich and up-to-date collection of books and references on literature, sports and culture should be added continuously for overall development of children. For optimum use of books & provide opportunity to browse books, open access to all documents should be promoted.

Central and state governments should take serious actions to introduce concept of libraries in govt. schools. It is a grate challenge before the state governments to nourish school libraries in order to strengthen the knowledge base of the students. To formulate a complete and comprehensive development of govt. school libraries, state govt. should implement library legislation so that planned development of libraries is ensured.

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## **Book Review**

### **RESEARCH METHODS AND INFORMATION TECHNOLOGY (in Hindi)**

**BY DR. ARVIND KUMAR SHARMA**

New Delhi: Ess Ess Publications, 2008, 298p.

ISBN 81-7000-532-9 (HB). Price Rs.725/-.

Research has been an integral part of academic pursuits in the past. It has served two-fold purpose in intellectual sharpening and evolving new theories to explain diverse phenomena through which the mankind has survived to its present form. It may not only be for academic interest but more for human enlightenment that one should study history to understand the dimensional development of mankind. Computer applications in social science research have increased with the introduction of application software for data processing. However, data processing needs some in-depth understanding of hardware, software and other aspects of IT. Now that computers have come to stay in research, young researchers need to be made aware of these use ends and facilities so that they can efficiently analyse and interpret their data.

During the last one decade there has been a great demand from Hindi medium students and research scholars in library and information science for a book on application of information technology in conducting research. The book under review which is written by Dr. Arvind Sharma filled that gap. Dr. Sharma has written this book to encompass modules that train research scholars and students in the area of computer application, especially relating to data analysis and interpretation of the results. The readers shall be exposed to basic knowledge in data processing using various statistical software packages. The main objective of this book is to impart training in the areas such as computer system, quantitative and qualitative research processes, data processing using computer and making sense of the results. In addition to this author has also described about the role of computer and internet in conducting research. Various sources and services available on the internet have also been explained in the book.

In all there are twelve chapters in the book. First chapter opens with definition, types, purpose, need, steps, problems and scope of research. Next chapter discusses about various research methods used for conducting research. Data collection is an important part of research followed by Measures of central tendencies which were discussed in chapter three and four. Sampling methods, data analysis & presentation, research design and hypothesis were discussed in chapter five to eight. Chapters nine elaborates on Bibliometrics, scientometrics and webometrics, whereas in chapter ten which is very important step of research i.e., 'report writing' is explained. Chapter eleven to twelve deals with the application of information technology in research.

The typography, printing and quality of paper used is good. However the cost of this book is comparatively a bit high for the students i.e., Rs.725/-. It may not be possible for many students to purchase such a useful book for them. At least a student's edition at cheaper cost would have been a better option for them. This is perhaps the first book of its own kind which fills the long felt gap for Hindi medium students in the area of Research Methods and Information Technology.

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