

## External users in an environmental research library

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The present study on external users of National Environmental Engineering Research Institute Library is based on the analysis of registration forms of external users during 2007. It covers aspects such as user affiliation, level of users, subject areas and micro subjects sought for information by academic users and geographical distribution of the users. Implications of external library users for library management are discussed.

### Introduction

Libraries as knowledge resource centers have ushered in a new era of technological upsurge. Internet, digitization, consortium, e-journals and e-books, databases, Wi-Fi technology, RFID and many more have become the buzzwords of the day. Enhancing access to scholarly information is a major responsibility in research libraries which to a great extent is being addressed through application of information technology by the libraries. Research libraries specialize in specific subjects and serve the primary users of the parent organization. All the same, the libraries have an obligation to serve external users also from time-to-time. External users are referred to as unaffiliated users<sup>1</sup>, outside users, secondary users or non-members. They are not necessarily part of the stated clientele of a library, so their needs may be pushed to the side and restrictions placed on their library use<sup>2</sup>. Generally, such users in research libraries may come from institutions of higher learning and scholarship, for their in-depth information needs, but others like practicing professionals, consultants, government and industrial officials also are required to approach research libraries from time-to-time. The external users have an impact on the libraries and library managers need to proactively make an assessment of these clientele. However, it has been observed<sup>3</sup> that the point of view of unaffiliated user is not often represented in the library literature. This study seeks to make an assessment of external users of the

National Environmental Engineering Research Institute (NEERI) Library, Nagpur. NEERI is a premier R & D Institute in environmental engineering and science in the country. The library is well established with rich information resources on the subject and related disciplines and has a significant number of external users who visit the library to fulfill their information needs.

### Objectives of the study

- To make an overall assessment of external users to NEERI library, their categories, levels, basic disciplines, geographical distribution, information needs, etc., and
- To observe the implications of such users for library managers.

### Methodology

The present study is based on the analysis of registration forms of external users during 2007 and covers aspects such as user affiliation, level, subject areas and micro subjects sought for information by the users, geographical distribution of the users etc. The number of external users in 2007 was 340.

### User affiliation

An inquiry into the question as to who are the external users of the library indicated that maximum users were

Table 1—Categories of external users

Category	No. of Users
Academic	310
Government	10
Industry/Consultant	5
Retired Scientist	6
Others	9
Total	340

Table 2—No. of users in academic categories

Academic Level	No. of Users
B. Sc.	10
B. Tech.	20
M. Sc.	210
M. Tech.	30
L. L. M.	1
M. Phil.	4
Ph. D.	35
Others	30
Total	340

from academic categories pursuing education in different institutions (Table1).

The library also had clientele from government departments, industries and consultants who have specific information needs such as scientific data, methods, standards, rules and regulations etc. These users particularly make use of the library during their visits for meetings and conferences organized by NEERI. Occasional use is also made by retired scientists for their information needs for scientific communications such as writing papers, delivering lectures, participation in discussions, etc.

There are a few general users such as those who have some work with the scientific divisions, or those who need some specific piece of information. Such visitors devote very little time in the library and generally are satisfied with browsing some collection or just going through the stacks.

### Academic users

With increasing awareness on environmental issues and the need for scientific solutions to these, the subject has been introduced in the academic system from primary school to post graduate level. The branch has been recognized for science stream courses such as B.Sc. M.Sc., for engineering stream, i.e. B.E. and M.Tech degree courses. Obviously, there is a well established

Table 3—Statewise distribution of external users

State	No. of users
Assam	2
Bihar	2
Chhattisgarh	20
Delhi	5
Gujarat	4
Haryana	2
Jharkhand	2
Kerala	4
Madhya Pradesh	30
Maharashtra	230
Orissa	2
Rajasthan	4
Tamil Nadu	16
Uttarakhand	7
Uttar Pradesh	8
West Bengal	2
Total	340

information need on various aspects of environment. Availability of latest standard books of reputed authors, publishers and professional agencies, reference books, journals, standards, conference documents provides increased exposure to authentic information to the academic users.

### Level of academic users

Since majority of external users to NEERI library are from academic institutions, an analysis was made into the levels of these users. Table 2 shows the extent of users from the academic category, according to their level of education.

It is thus observed that the NEERI library has been used by graduate, post-graduate, and research level academic users. The highest number of users are at post-graduate level. Generally up to graduate level, the information needs are satisfied through prescribed textbooks and other books in the academic library. However, college libraries due to budgetary constraints may not be in a position to acquire expensive books and journals required for postgraduate level studies. Thus, higher usage by postgraduates may be attributed to the breadth of collection of the NEERI library, which contributes in tremendous way to the literature search needs of these users. Some academic users are themselves faculty as well as research students.

Table 4—Disciplinewise breakup of external users

Subject	No. of users
Agriculture	4
Biochemistry	3
Bioinformatics	2
Chemical engineering	12
Chemistry	21
Civil engineering	11
Climatology	2
Computer science	1
Environmental engineering and science	98
Fisheries	3
Geography	1
Geology, hydrology	2
Home science	1
Law	3
Microbiology and biotechnology	140
Mining	4
Zoology	4

Table 5

S. no.	Illustrative list of environment related subjects of search
1	Air pollution levels in cities
2	Climate change mitigation
3	CO <sub>2</sub> sequestration
4	Environmental audit
5	Environmental biotechnology
6	Environmental education
7	Environmental genomics
8	Environmental geology
9	Environmental impact Assessment
10	Environmental modeling
11	Environmental monitoring
12	Environmental management standards
13	Ground water availability in regions
14	Hazardous waste management
15	Heavy metals pollution
16	Industrial wastewater
17	Life cycle assessment
18	Noise pollution
19	Sanitation
20	Solid waste management
21	Water analysis

The students also require information for preparing their dissertation/thesis/seminars and exposure to comprehensive literature from varied information resources in NEERI library enables them for better study and presentation of their research work. Several students join NEERI for training in various branches such as air pollution, water and wastewater, environmental biotechnology, environmental modeling, environmental materials and waste management. Library use is an indispensable part of the training for enhancing their knowledgebase.

### Geographical distribution of users

As NEERI is located centrally in India besides local users from Nagpur, users from other places also come to refer the library. The data on users from various states during of 2007 is given in the Table 3.

As seen in Table 3, highest number of users is from Maharashtra with 15 users from Nagpur itself. Geographical proximity certainly is a contributing factor among others for higher local usage. Users from other states also visit NEERI library for their literature search needs. The implication for library managers relate to getting authentication letter from the institution, prior confirmation of consultation dates for outside visitors, information on subject on which the information is to be searched to ensure that the user would get requisite literature, etc.

### Subject disciplines of external users

The subject field of environment is too inter-disciplinary. Each branch of knowledge is related to environment. Thus, besides environmental science and engineering, the NEERI library has information resource base on varied aspects of environment and related subjects. External users approaching NEERI library belong to various disciplines.

The disciplines/branches of the external users are given in Table 4. Obviously, besides environmental engineering and science, the analysis of one year user data indicated a wide range of subject fields/ disciplines.

There are maximum number of users from microbiology and biotechnology which is a vital area of research. NEERI library has comprehensive collection of information resources in this, as environmental biotechnology and genomics are thrust areas of ongoing research of the Institute.

### Microsubjects of the users

External users primarily seek assistance to find a specific book, article in library's collection<sup>4</sup> in addition they

Table 6 — Illustrative list of micro subjects related to other disciplines

Instrumentation	Optimization of Gas Chromatography / High Performance Liquid Chromatography
Chemical technology	Lactic acid fermentation, Production of cellulose ethanol
Agriculture	Methods of soil analysis
Medical science	Anticancer properties of natural products, Genetics and vaccine research
Biotechnology	Molecular characterization of hyper accumulation in clonal progeny of selected plants
Mechanical engineering	Rock bolt design, continuous miner working and in-situ stress and its measurement
Research methodology	Methodology of project work
Computer science	Web based GIS, Modeling

Table 7—Micro subjects of information search related to Nagpur city

- 1 Status and assessment of noise pollution level at Nagpur city
- 2 Assessment of water quality in some rural area on Nagpur-Bhandara highway receiving various industrial wastewater discharge
- 3 Infiltration of Nag river waste into the nearby well water
- 4 Evaluation of water distribution system through water quality, characteristics, treatment and storage of Nagpur city
- 5 Study of quality of drinking water available in corporation schools of Nagpur city
- 6 Evaluation studies of air pollution in ambient air in Nagpur City
- 7 Water quality study of reservoirs in Nagpur division
- 8 Ground water quality from dug wells and bore wells around municipal solid waste dumping site Bhandewadi
- 9 Survival of E coli in Futala lake Nagpur
- 10 River revival management plan for Nag Nadi in Nagpur
- 11 Assessment and pollution load in river water bodies of Nagpur District
- 12 Seasonal variation and assessment of pollution load in surface water bodies of Gandhi Sagar & Futala lake
- 13 Air and noise pollution in Butibori industrial area, Nagpur
- 14 Hydro biological studies on lakes
- 15 Analysis of water from different region of Maharashtra

require information on microsubjects. Microsubjects of the users refer to the exact subject on which the users approach the library for literature search. The analysis of subjects revealed information needs directly on aspects of environmental engineering and science (Table 5) and secondly those on other subjects (Table 6).

It is thus observed that although the users are from various disciplines, their information needs are related to environment and also occasionally to other subjects.

The academic courses are becoming increasingly interdisciplinary. This requires widening of the knowledge base through study of various information resources and the users expect that the research library will satisfy other scientific information needs.

The analysis also interestingly revealed the extent of the information requirement for environmental issues of Nagpur (Table 7). Likewise, there is a demand for information on environmental issues of other cities as well (Table 8).

Table 8—Micro subjects of Information search related to others cities in India

1	Disposal of urban waste in the Indian desert city of Bikaner
2	Environmental impact assessment of proposed Sahasrakund hydel project
3	Assessment and monitoring of water quality of Sahanur dam
4	Assessment of ground water quality around Ahmednagar
5	Healthy city concept: Pune city-a case study
6	Ecological status of Mohgavhan Lake with reference to pisciculture

The implication of such requirement is for information resources development and information organization into library's databases. Depth indexing of geographical component also is done in the library's databases for instant location of relevant information.

### Document delivery services

External users have document copy needs. They either have a readymade list of references of which they need the copies. Else, during the literature search at NEERI library they identify requisite references and may need copies. During the period under study, 5637 copies were supplied to the external users by the NEERI Library.

### External users feedback

In order to assess the users feedback on the library, a simple proforma was given to the users listing the components such as information resources, the organization, physical ambience, staff assistance, display systems, services etc. The users were asked to rate these on a three point scale. Whereas the users rated the information resources, their organization and reading room lighting, arrangement, ventilation as excellent, the sign boards, shelf guide etc. were rated as very good. Regarding document supply, the rating was very good with suggestion to make the service cheaper. The other observations included misplacement of books, requirement of more number of reading tables and provision of drinking water in the library. It was observed that some users did not return the feedback proforma.

### Implications of external users for library managers

The library has to serve its own clientele that is the Institute's scientists who are working on various international and national R & D projects. The issue of external users needs to be carefully dealt with, without

affecting to services to the legitimate users. The NEERI library permits external users for scholarly information search. It offers services such as reference and referral, online public access catalogue, document supply, literature search, guidance etc. However, for any research library, the policy needs to be developed taking into consideration the issues below.

### Availability of staff

Libraries are under constant pressure of staff crunch. With demands of information technology applications, things on one side seem to have eased as far as access is considered, but have added new dimensions of work for the staff. Too liberal policy for external users may become burdensome for available library staff as the user demands may be at times too pressing. Experience indicates that with the introduction of environmental science as degree and postgraduate degree subject, the number of external users had become unmanageable. Thus, recourse to limiting number of external users per day and number of days for library use becomes inevitable. The demands on the staff include registration of the borrowers, answering reference queries, literature search guidance, document location, document supply and associated procedures, issuing library use certificates, vigilance etc.

### Security

Security issue is also important with external users. There are expensive and rare research information resources in the library. The library staff has to be vigilant against pilferage and losses. Cases are not uncommon when external users resort to malpractices such as tearing of pages from expensive books, misplacement of books, book theft, etc.

### Library fees

Generally, all the academic users pay library fees in their own institutions of learning. It is recognized that direct and indirect costs are involved in library services.

Putting monetary value to the library services necessitate understanding the user needs and the duration for which they need the library consultation. When the need is for in-depth literature search, levying charges may become inevitable. For external users, different libraries have different fee patterns. Some charge for consultation while others for services. Some have per day fee structure,

while others may have yearly fee pattern, particularly for corporate members.

#### **Borrowing privileges**

It is generally observed that many institutions allow only for in-house use of the library. The libraries do not give borrowing facility to external users primarily because of the needs of their own clientele. The commitment of the libraries to their own users is valid.

#### **Information guidance**

The library needs to have appropriate systems to provide the external users adequate guidance in library resources and use. In order to make the consultation easier, the NEERI library has self explanatory shelf-guides, computer terminals for online public access catalogue, well-defined procedure for library use, document supply, etc. The information on the resources and services and the staff is also made available on the web page of the Institute. The novice users are guided for literature search for their projects personally by the professional staff of the library. Thus precise statement of their topic and purpose of visiting the NEERI library is essentially taken

from them.

#### **Conclusion**

External users are inevitable in the libraries. This study of external users of NEERI library has resulted in understanding the extent, level, subject background and topics of information search of external users and visualizing implications of such users for library management. Such studies are vital in the context of development of information resources, services and policies and making the library use more meaningful for the researchers.

#### **References**

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