INFORMATION NEEDS AND PUBLISHING HABITS OF GEOScientISTS: A CASE STUDY

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Briefly enumerates the services rendered by Wadia Institute of Himalayan Geology (WIHG) library. Evaluates the users' reaction towards these services. Presents the results of a survey conducted for ascertaining the information needs and habits of geoscientists. Publishing habits of the geoscientists of WIHG have also been ascertained. Concludes with some suggestions for meeting the information requirements of geoscientists.

INTRODUCTION

Geoscientific research like any other scientific research is carried out in three stages, viz., i) Observation - going to the field; ii) Experimentation - laboratory analysis of the collected samples, and iii) Reporting - interpreting the gathered data and giving the findings. All these stages, particularly the final stage, are directly dependent upon the availability and use of information. Right use of information is now a deciding factor for the growth and development of scientific research. The ultimate goal of the librarianship today is to provide the information to the researchers, the producers as well as consumers of information. We can satisfy their information requirements better, when we know what they require. In view of this, the present study was undertaken to evaluate the information needs and habits of geoscientists at the Wadia Institute of Himalayan Geology.

WIHG

Wadia Institute of Himalayan Geology (WIHG), Dehra Dun is a research organisation under the Department of Science and Technology, Government of India, established in 1968, to acquire and deliver two main technical services: (1) detailed research and analysis of Himalayan rocks to gather more and more basic fundamental knowledge related to its origin and evolution and for exploring its natural wealth, and (2) quick transfer of new technology by communicating the new knowledge to related scientific and industrial organisations of the country.

WADH LIBRARY

To fulfil these objectives the library of the Institute along with its Documentation and Publication Section has been playing vital role since its inception. The Library that came into existence along with the Institute, serving a handful of geoscientists, has now grown significantly to assume the position of the heart of the Institute. It is developing gradually but steadily. At present the library is stocking a special and up-to-date collection of about 5000 volumes on geoscience. The library is subscribing to about 100 foreign and 40 Indian journals.

INFORMATION NEEDS AND HABITS

In order to ascertain the evergrowing information needs and complex information habits of the geoscientists, a questionnaire (Appendix A) was circulated. The response gathered through this approach and also through conducting face-to-face interviews were analysed and the results are presented:

1. 80% expressed their satisfaction about the services rendered by the library.
2. Geoscientists gave preference to a small and rich but service oriented library over a large self-help library. However 20% of the scientists claimed that the resources available in the library were inadequate to meet most of their information requirements.

3. Geoscientists acquire information from outside their own library in the following way:

   a) Asking the author for the reprints : 75%
   b) Requesting friends at other institutions to do the needful : 15%
   c) Visiting other nearby research institutions : 09%
   d) By other means : 01%

4. The geoscientists spent 50% of their research time on literature search. Mode of literature search was as follows:

   a) Through review literature : 60%
   b) References given at the end of the research papers : 30%
   c) Through indexing and abstracting services : 05%
   d) Library catalogues : 02%
   e) Others : 03%

5. Geoscientists prefer to do most of their reading in their work rooms/laboratories. Only for occasional reference purposes they would feel like going to the library.

6. The form of literature that figures in their search activities is as follows:

   a) Journals : 70%
   b) Conference Proceedings : 15%
   c) Dissertations & Theses : 07%
   d) Research Reports : 03%
   e) Others : 05%

7. The respondents observed a time-lag of 3 to 6 months between the publication of a research paper and their access to it.

8. The average time-lag between sending a paper and its publication varied from 9 months to 1½ years.

9. The order of priority of consulting journals was as follows:

   a) Consulting journals directly related to their field of specialisation
   b) General scientific journals like Science, Nature, Scientific American, etc.

10. As to the criteria of evaluating a journal for consultation and publication of research findings, the unanimous response was “quality of research paper appearing in the journal”. Hardly any consideration was given towards other criteria such as regularity of publication and country of origin.

11. The respondents get the latest information relating to their specialisation in the following ways:

   a) Through consulting the current issues of journals displayed in the library : 80%
   b) Through comments on their manuscripts : 10%
   c) Through association with professional societies : 05%
   d) Others, including CAS provided by the library : 05%

12. Regarding awareness of the information services provided by various information centres like INSDOC, NISSAT, etc. the general response was nil.

13. On the necessity of various information systems, the response was as follows:

   a) Science data bases : 80%
   b) Telecommunication for transfer of scientific information : 50%
STUDY OF USER NEEDS

c) Full exploitation of electronic media for transfer of information 40%
d) A big “National Science Library” with its divisions into various subjects 90%
e) Increased co-ordination among various institutions of a subject 80%

14. Regarding suggestions to improve the library services, I fully agree with the remarks put by one scientist and which I feel is the general view held by the scientific community. The remarks are:

“I believe mere suggestions will not help. Every librarian, of course, well qualified and intelligent, should know the right functioning of a library. The set and well established norms of Library Science are sufficient to meet the demands of scholars, at least here, in India”.

PUBLISHING HABITS

In order to ascertain the publishing habits of geoscientists to WIHG, the annual reports (1972-73 to 1980-81) were consulted, and data obtained from them were analysed. The results are given below:

Authorship Pattern

Solo research is still found to be predominant in geoscience research. 54% of the contributions of WIHG for the years 1972/73 to 1980/81 are single-authored. (Table 1)

Publishing Pattern

37% of the contributions have appeared in the Institute publications; 43% in other Indian publications, and only 14% have found their appearance in foreign journals. Where 6% contributions were published could not be ascertained. (Table 2)

Published Form

Geoscientists communicate their research findings mainly through journals. 90% of the total contributions have appeared as articles in various journals; 4% as brief research report in journals and only 6% as articles in books etc. (Table 3)

SUGGESTIONS

One of the main channels of getting the desired information from outside the library, is procurement of reprints by requesting the author. In view of this it could be better for the library to maintain a list of well-known geoscientists working in other institutions and to establish a regular reprint exchange programme with them.

2. Scientists spend 50% of their research time in literature search, it could therefore be better if they are relieved of this job by equipping the information centres with expert information personnel capable of doing this service for them.

3. Consulting review literature was found to be one of the main approaches of the scientists for the required information. In view of this, it could be better if such publications basing the literature received in the library are brought out on regular basis and served to the clientele. Similarly, bringing out of indexing and abstracting services of the literature received in the library, on regular basis, would be a welcome step towards this direction.

4. It would be better to provide the researcher the requisite information at his work table.

5. Journals directly related to the subject being the main source of information, the procurement of the journal should be given utmost care.

6. In order to avoid time-lag between the publication of a paper and the scientist’s access to it, literature delivery by air-mail can be attempted.

7. In order to reduce time-lag between sending of a paper and its publication in some journal, it is better to arrange for their expeditious publishing in some “in-house-publication”.

8. Services like the Current Contents should be circulated among the scientists on regular basis.
TABLE 1:  
Authorship Pattern

<table>
<thead>
<tr>
<th>Year</th>
<th>Total contributions</th>
<th>Single Author</th>
<th>Double Authors</th>
<th>Three Authors</th>
<th>Four Authors</th>
<th>Five Authors</th>
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<tbody>
<tr>
<td>1972-73</td>
<td>24</td>
<td>16</td>
<td>06</td>
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<td>-</td>
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<tr>
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<td>12</td>
<td>04</td>
<td>-</td>
<td>01</td>
<td>-</td>
</tr>
<tr>
<td>1974-75</td>
<td>33</td>
<td>15</td>
<td>13</td>
<td>03</td>
<td>02</td>
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<td>-</td>
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<tr>
<td>1975-76</td>
<td>26</td>
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<td>-</td>
</tr>
<tr>
<td>1976-77</td>
<td>34</td>
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<td>12</td>
<td>03</td>
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<td>03</td>
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<td>01</td>
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<tr>
<td>1979-80</td>
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<td>36</td>
<td>13</td>
<td>02</td>
<td>05</td>
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</tr>
<tr>
<td>Total</td>
<td>451</td>
<td>245</td>
<td>136</td>
<td>45</td>
<td>20</td>
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TABLE 2:  
Publishing Pattern

<table>
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<tr>
<th>Year</th>
<th>Total Contributions</th>
<th>Institute Publications</th>
<th>Foreign Publications</th>
<th>Other Indian Publications</th>
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<tr>
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<td>1973-74</td>
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<tr>
<td>1975-76</td>
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<td>26</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>451</td>
<td>165</td>
<td>65</td>
<td>196</td>
<td>25</td>
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</table>
TABLE 3: Publishing Form

<table>
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<tr>
<th>Year</th>
<th>Total Contributions</th>
<th>Journals as articles</th>
<th>Journals as reports</th>
<th>Books as articles</th>
</tr>
</thead>
<tbody>
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<td>03</td>
<td>-</td>
</tr>
<tr>
<td>1973-74</td>
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<td>1978-79</td>
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<td>07</td>
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<td>06</td>
</tr>
<tr>
<td>Total</td>
<td>451</td>
<td>405</td>
<td>16</td>
<td>30</td>
</tr>
</tbody>
</table>

9. Efforts should be made by higher information bodies like INSDOC, NISSAT, etc. to advertise their services among the scientists so that they can benefit from the same.

10. NISSAT, under its Sectoral Information Programme, may help set up a National Information System for Geoscience in India at CSI Library, Calcutta, whose regional centres and circle offices will form co-ordinating links for the proposed centre.

ACKNOWLEDGEMENT

Co-operation extended by the Scientists of WIHG is gratefully acknowledged. Sincere thanks are due to the Director, WIHG for giving his kind permission to send this paper for publication.
RAINA

Appendix - A

QUESTIONNAIRE

A STUDY OF INFORMATION NEEDS, HABITS, PROBLEMS OF THE SCIENTISTS AND THEIR AWARENESS OF THE RESOURCES AT WADIA INSTITUTE OF HIMALAYAN GEOLOGY, DEHRADUN.

(N.B.: The information supplied by you won’t be disclosed)

1. (a) Name of the Scientist .................................................................
    (b) Designation .............................................................................
    (c) Area of specialisation .............................................................
    (d) Age and Sex ..........................................................................
    (e) Research experience ..............................................................

2. Is the library of your parent institution meeting most of your information requirements?  
   Yes/No

   If no, which of the demands you feel are not fulfilled?
   ...........................................................................................................

   If yes, do you get following services from your library?
   (i) Personal assistance of staff in the location of material of your subject interest
       Always ............. Occasionally............. Never .............
   (ii) Answers to your fact finding enquiries and supply of brief information you need (like a data or a figure)
   (iii) Supply of relevant information in anticipation
   (iv) Easily get a book, a periodical or any other document belonging to your library

3. What do you do when you don’t get desired information from your library?
   (i) Ask the author for the reprint ......................................................
   (ii) Ask the library staff to procure the document on inter-library loan
   (iii) Ask a friend at some another institution to search the document and set it or its photocopy
   (iv) Personal collection of a colleague ...........................................
   (v) Ask your parent library to acquire the document
   (vi) Any other means .................................................................

4. Other means of getting information besides the printed resources.
   (i) Discussion with colleagues ......................................................
   (ii) Writing to a friend in India/Abroad ...........................................
   (iii) Visiting a specialist who is very much recognised in your field
   (iv) Attending conferences related to your area of specialisation

Ann Lib Sci Docu
(v) Through telephone .................................................................
(vi) Maintaining “Invisible College” ...........................................
(vii) Any other means .................................................................

HABITS

I. (i) Approximately how much time do you devote to research in a week’s period ..........................

(ii) How much part of it is devoted to literature searching, reading and other communication activities? ...

II. Literature Use

(i) How much time you spend for reading literature? .................................................................

(ii) In work room/laboratory .................................................................................................

(iii) In Library ...........................................................................................................................

(iv) In Home ............................................................................................................................... 

III. Which form of literature figures in your research activities?
Please use the scale (0-100)

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Journals</td>
<td>(i) Text books</td>
</tr>
<tr>
<td>(ii) Research reports</td>
<td>(ii) Reviews of progress</td>
</tr>
<tr>
<td>(iii) Patents</td>
<td>(iii) Treatise</td>
</tr>
<tr>
<td>(iv) Standards</td>
<td>(iv) Encyclopedias</td>
</tr>
<tr>
<td>(v) Conference proceeding</td>
<td>(v) Dictionaries</td>
</tr>
<tr>
<td>(vi) Dissertations</td>
<td>(vi) Directories</td>
</tr>
<tr>
<td>(vii) Research Monographs</td>
<td>(vii) Published bibliographies</td>
</tr>
<tr>
<td>(viii) Trade literature</td>
<td>(viii) Indexing and abstracting services</td>
</tr>
<tr>
<td>(ix) Unpublished sources</td>
<td></td>
</tr>
</tbody>
</table>

IV. Delay

(i) How much delay you find between the publication of an article and your access to it .......... 

(ii) What measures do you suggest to remove this delay ...........................................................

(iii) How much time you have to wait after sending your own paper and looking forward for its publication .................................................................

(iv) What alternatives do you suggest to overcome this delay in communicating your results ...

V. Journals

(i) How many of the journals you subscribe by sending personal subscription ....................

(ii) How many of the journals you get free by becoming member of your learned societies, associations and other bodies .................................................................
VI. Consultation

(i) What percentage of general journals (e.g. Nature, Scientific American, Science, Science Today, American Scientist, New Scientist) is consulted by you for searching material related to your subject

(ii) Percentage of journals you read which are directly related to your subject

(iii) Percentage of journals you read which are not directly related to your subject but likely to have some material of your interest

VII. Choice

Which is your criteria of giving preference to a journal
(Please make order of preference if you have got more criteria)

(i) Its format, cover-page etc.
(ii) Its regularity
(iii) The quality of research papers
(iv) Its good printing
(v) Country of origin
(vi) Any other factor

How many papers on an average you read in journals in a week?
(Your honest data will be quite helpful to us).

VIII. Information Searching Habits

How do you undertake the information search related to your area of interest?

(i) Through indexing and abstracting journals
(ii) Consulting review literature
(iii) Indexes with individual periodicals
(iv) Consult references given at the end of encyclopedia, treatise or composite book articles
(v) Library catalogue
(vi) Published catalogues of other libraries/Union catalogues
(vii) Latest data which appears in dailies and book trade journals
(viii) Any other media

IX. How do you get the latest information in your area of interest?

(i) Maintaining relations with learned societies, associations and other bodies and getting their newsletters/circulars etc.
(ii) Through current awareness services provided by your library
(iii) Any other channel
STUDY OF USER NEEDS

X. Average number of conferences/seminars, workshops you attend in a year:

(i) International .....................................................
(ii) National ..........................................................
(iii) Regional .........................................................

6. Do you feel that there is need of

(i) Science data bases ..............................................
(ii) Telecommunication for transfer of scientific information ........................................
(iii) Full exploitation of electronic media for transfer of information ................................
(iv) A big national science library with its divisions into various subjects ................................
(v) Increased coordination among various institutions of a subject ................................

7. What information services of the following institutions/bodies/plans do you appreciate

(i) INSDOC .........................................................
(ii) NISSAT .........................................................
(iii) Indian Patent Office ...........................................
(iv) CSIR ............................................................

Which other international organizations, you feel can serve your information requirements?

(i) ..............................................................................
(ii) ..............................................................................
(iii) ..............................................................................
(iv) ..............................................................................
(v) ..............................................................................

8. Expenditure on communication activities

Do you get sufficient contingencies for purchase of relevant books, getting material xeroxed and for typing of manuscripts, postage etc. ........................................ Yes/No

If yes, what is the annual amount and in what form you get it? ..........................................

If no, what alternative you find? ..........................................

(i) Spend from your own pocket ..........................................
(ii) Suspend some of the research projects as not able to afford from your pocket .............

If you are spending some amount from your own pocket, how much average you spend from your own pocket in communication activities.

(i) Talking to a friend on phone for getting information ..........................................
(ii) Travelling for field research or consulting material at some other place ..................
(iii) Purchase of literature ..........................................
(iv) Typing, postage, etc. ..........................................
(v) Under correspondence ..........................................

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9. Your visits abroad
   Countries. .................................................................

   What better information services do you feel were provided there ........................................
   Which of their communication systems do you appreciate .........................................................

10. Problems which you feel make your relevant information unaccessible or considerably delay its access .................................................................

11. Your suggestions regarding the improvements in scientific information communication ........

   (attach separate sheet if you have more to say) ........................................................................

   (Thanks for your cooperation)