

The Experience of a Specialized Information Service in Asia-AGE †

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Introduction

The many documentation problems in developing countries often stem from similar causes. These problems show a remarkable unity of focus despite the scattered location of developing countries over the various parts of the world. In seeking appropriate solutions to these problems which in some cases may require separate approaches for peculiar circumstances, an identification of these prevailing problems and their causes is the necessary first step. This paper intends to identify some of the documentation problems and difficulties encountered by the Asian Information Center for Geotechnical Engineering (AGE) in its first two years of operation and to suggest necessary actions needed for their remedies.

AGE

The Asian Information Center for Geotechnical Engineering (Asian Geotechnical Engineering for short, abbreviated AGE) was founded in January 1973 at the Asian Institute of Tech-

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nology, a Bangkok based regional post-graduate school for engineering and related sciences, under the joint sponsorship of the Institute's Division of Geotechnical Engineering and the Library and Information Center. In general, the term "Geotechnical Engineering" comprises five subject areas:

- Soil mechanics
- Foundation engineering
- Rock mechanics
- Engineering geology
- Earthquake engineering

The idea of establishing AGE was conceived at a meeting held in Bangkok, July 1971, of the representatives of the national societies of soil mechanics and foundation engineering in Asia. Arising from a generally felt need for a relevant, timely and responsive information service on geotechnical engineering especially tailored to the needs of Asian engineers, the meeting passed a resolution requesting the Asian Institute of Technology to establish and operate AGE for the purpose of selecting, acquiring, analyzing, storing, retrieving, publicizing, and disseminating useful information on Asian geotechnical engineering for the benefit of all those who are concerned. Recognizing the significance of geotechnical engineering work in relation to social and economic development in Asia as well as the importance of providing information service on a regional basis to serve the needs of geotechnical engineers and specialists, a grant was made by the International Development Research Centre (Canada) to support the operations of AGE for a three-year period.

Among the major activities of AGE are:

1. Searching, selecting, and acquiring both published and unpublished literature on geotechnical engineering which are relevant to Asia. Emphasis is given to literature originating in Asia, preferably in English, but materials of importance even in other languages are also included.
2. Establishing both an index card file and a machine-readable data base for the relevant literature completely indexed

and abstracted for easy retrieval. Both the International Geotechnical Classification System (IGC) and the Soil Mechanics Thesaurus are used.

3. Disseminating information on available literature through the following secondary publications:

AGE Current Awareness Service: A quarterly publication informing readers of recent geotechnical engineering publications and contents of selected geotechnical engineering journals received at AGE.

Asian Geotechnical Engineering Abstracts: A quarterly publication consisting of abstracts of available publications and reports on geotechnical engineering in or about Asia.

AGE Conference Proceedings List: An annual list of conference proceedings on various subjects of geotechnical engineering in AGE's collections.

AGE Journal Holdings List: A list revised annually of geotechnical engineering journals held at AGE.

Besides these four publications, a SDI service by computer is currently being developed and is expected to be ready for service early in 1976.

4. Conducting periodic surveys on geotechnical engineers, specialists, and organizations in Asia as well as their on-going projects and works in progress. Results of these surveys are published in the following two publications:

Asian Geotechnical Engineering Directory: A biennial publication to consist of information on various organizations and individuals who are doing geotechnical engineering work in Asia or work relevant to Asia.

Asian Geotechnical Engineering in Progress: A semi-annual publication to consist of information on current design, construction and research projects in geotechnical engineering being undertaken in Asia.

5. Providing the three "R" services (Reference, Reprography,

and Referral) to members and other users. It is planned that at some future date, the Center may also publish state-of-the-art reviews and bibliographies on subjects of interest to geotechnical engineers.

6. Cooperating with other information and documentation services on or related to geotechnical engineering both in and outside Asia to enhance information resources and service on geotechnical engineering on a global basis through reciprocal arrangement and systems interconnection. Discussions on this have been in progress with the *Geotechnical Abstracts*, Inc. (Germany); the Division of Applied Geomechanics, Commonwealth Scientific and Industrial Research Organization (Australia); the Swedish Geotechnical Institute; etc.

Basically, AGE's collections, data base, publications, and services are available to its "individual members" and "institutional members". With the financial support generously provided by IDRC, AGE is able to keep the fees for the two kinds of membership at a very low level with a special rate to Asians in order to give them the maximum benefit at a cost the majority of them can afford. As of December 31, 1974, AGE had a total of 149 members; 52 are institutional members and 97 are individual members. They represent 17 Asian countries and 8 non-Asian countries. It is hoped that the number of members will be greatly increased in the years ahead so that AGE could eventually support itself through membership fees and incomes drawn from publication sales and service charges received from non-members.

In order to find the pattern of information usage by geotechnical engineers in Asia, a questionnaire survey was conducted among AGE members in March 1974. Findings concerning the general characteristics of AGE members, their channels for information, the library facilities available to them, the types of technical information they often require as well as their appraisals of the two quarterly AGE publications: *The AGE Current Awareness Services* and the *Asian Geotechnical Engineering Abstracts*, and other services provided by AGE were

reported in the paper entitled "User and Use Analysis: A Case Study of the Information Utility by Geotechnical Engineers in Asian Countries." ¹

A follow-up study on the usage of all six AGE publications and the three "R" services by AGE members is being undertaken at present also by means of questionnaire. The second study is designed to seek answers to the following questions:

1. How appropriately have AGE publications and services served the needs of its members?
2. How would they rate the relative importance among the six AGE publications and among the various services?
3. What tangible effects have these publications and services had upon the members?
4. What improvement is needed in the existing publications and services?
5. Are there other publications and services which the members would like AGE to provide?
6. Does AGE meet their general expectation as a regional information center for geotechnical engineering?
7. What are some of the effective ways AGE can get more new members?
8. What are some of the effective ways AGE can obtain more technical literature from the member's country?

The answers to these questions are very important for the planning and future programming of AGE during its next phase of development.

Documentation Problems

The common problems for documentation in developing countries as were experienced by AGE are the problems concerning language differences, bibliographical control, availability,

currency, and information consciousness. A brief discussion of each of these problems together with their implications and possible solutions are presented below:

1. The language differences:

This problem is not unfamiliar to documentalists in that there are many little known languages with which very few documentation services, including AGE, have the capability to deal. Being a regional post-graduate school, the students and faculty members of the Asian Institute of Technology come from 22 Asian countries. This gives AGE the advantage of obtaining linguistic assistance whenever needed. But even so, for practical reasons, AGE's collection is predominantly in English with a very small percentage of relevant literature in other languages. This practice is dictated by practicality and user demand rather than by the proportion of the literature available. This act of "discrimination" in the search and selection of relevant literature has restricted the coverage of AGE's collection.

In order to improve this situation, it is felt that the following measures should be taken by authors and editors of technical publications in every country, but particularly in those countries whose languages are less commonly known.

—For the authors, it will be very useful if they can supply the titles of their papers in a widely used language, preferable in English, in addition to their own. Furthermore, it will be very helpful if they can also prepare an abstract with key words or descriptors in such a language to accompany each of their papers.

—For the editors of proceedings, serial publications, and journals, they should either require their author to provide title, abstract, and key words in a widely used language in addition to their own or help them in providing these as a standard feature. A bi-lingual

title page and table of contents will facilitate literature search and simplify the documentation process.

2. Bibliographical control:

The lack of a comprehensive bibliographical control of publications and literature generated in most of the developing countries in Asia presents another serious problem for documentation work. Although the number of national bibliographies published by developing countries in Asia is increasing, a majority of them are neither complete nor current. This is also true in regard to indexes to journal literature and technical papers prepared by many of the Asian countries. Up until recent years scholars and researchers both in Asia and elsewhere have relied heavily on published library catalogs, international indexes and bibliographies produced by developed countries as the main sources for publications and literature of developing countries. Because of the inadequate coverage of these externally published bibliographical tools, many of the works of Asian origin are not included and therefore are unknown to others. From the AGE's experience, there is a very large amount of relevant literature on geotechnical engineering in most of the Asian countries which has not been listed anywhere.

In terms of the importance of indigenous material for engineers in Asia and the demand for it as shown by 58% of the photocopying requests received by AGE in 1974 which were for materials generated in Asia, a major effort should be made by as many Asian countries as possible to provide full bibliographical coverage of publications and literature originating in each of their countries.

The steps to be taken to remedy this problem include the publication of a national bibliography and national indexes by designated agencies such as the national library and the national documentation center or other suitable agencies in each country. The coverage of both should be

as complete and current as possible. This must be supported by appropriate depository laws which govern not just trade publications, but also documents, reports, and technical literature by a variety of sources.

The basic principles of Universal Bibliographic Control (UBC) which were proposed by FID and endorsed at the Intergovernmental Conference on the Planning of National Documentation, Library and Archives infrastructures, convened by UNESCO on September 23-27, 1974 should be implemented by each country to the fullest extent possible. The tools for standardization such as ISBD(M), ISBD(S), ISDS Guidelines, etc. should be adopted. Efforts should be made to participate in various international information systems such as INIS, AGRIS and DEVSIS so that a world-wide coverage of useful information in fields of importance can be made possible through international cooperation.

3. Availability:

The problem of availability or to put it more accurately "unavailability" of many indigenous publications and report literature is another headache for documentalists in Asia. Based on AGE's user survey, the most frequently required technical information by geotechnical engineers are field performance data, site investigation information, and engineering design and construction details. But, according to AGE's experience, much of this information is not published for wide distribution and is, therefore, very difficult to obtain.

The original sources for report literature of this kind, either published or unpublished, are government offices responsible for engineering works, academic and research institutions involved in engineering research and projects, and engineering and consulting firms. They have large amounts of report literature, but most of it is not easily available due to government red tape or unnecessary restrictions imposed by some of their issuing bodies. Fur-

thermore, many international or inter-governmental organizations, various foundations, and a score of foreign-aid agencies of the aid-given countries also generate a considerable number of documents and reports. It takes an extraordinary effort, frequently involving personal knowledge and contacts, to acquire some of this information which often proved to be most useful to engineers.

The experience of AGE serves to illustrate a serious need existing in developing countries where a great deal of financial and human resources could be saved or be channeled to better use if much of this report literature, not just that on engineering, could be deposited in national documentation centers of the respective countries and be adequately listed. The operation may be patterned somewhat after the National Technical Information Services (NTIS) of the U.S. to which all publications and reports of government funded or sponsored research and development projects must be deposited. By means of weekly announcements and monthly indexes, and supported by reprographic services, all such publications and reports are made easily available at low cost. It would be more advantageous if the national documentation center or an appropriate agency in every country could expand its coverage to include not just government related publications and reports but others as well, that originate in its country.

4. The Currency Problem:

A serious obstacle which prevents the inflow of useful information to the developing countries is the lack of convertible currency or foreign exchange in most of the developing countries. Because of this problem, both individuals and institutions in developing countries are unable to purchase needed publications, to subscribe to essential journals, to join professional societies, to obtain reprographic services, or to take advantage of specialized information services available to them from sources outside their coun-

tries. The use of UNESCO coupons has not functioned well as they, also, are difficult to obtain. There are also regulations on import controls which serve to discourage foreign publications from entering some countries or to step up their prices.

From AGE's experience, the currency problem has made it very difficult if not impossible for some individuals and institutions in Asian countries to join AGE or to use AGE's services despite the nominal rate of charge made possible by an IDRC grant.

To simplify this problem, permission has been granted by AGE to its members and users in those countries where foreign exchange is hard to obtain to pay their membership fees or service charges in local currencies to the appointed AGE liaison officer in their country. The local currency collected is to be used by the liaison officer to purchase local publications for AGE and to pay for packing and mailing costs. But even this provision is considered illegal in some countries. This unfortunate situation is not only responsible, in part, for the slow growth of AGE's membership, but also restricts many Asian users from taking advantage of the services provided by AGE.

Unless the governments can take affirmative action to ease the regulations on foreign exchange, particularly when it is used for the acquisition of publications and technical information, the information users of these countries will continue to be impoverished information-wise.

5. Information Consciousness:

Documentation services exist for their users. In the developing countries, the needs of information users are sometimes hidden or invisible at first but reveal themselves in an accelerated rate of use once started. Because of this, the temporary absence of visible needs should not be taken to mean that documentation services are not needed

or at least not urgent. The main cause for the hidden needs stems from the long absence of adequate library and information services in most of the developing countries. People simply become accustomed to this situation and learn to get along without the benefit of information. This situation has resulted in a vicious circle of slowness in national development as well as in an "inferior" state of documentation service.

In order to improve such a situation, a special effort must be made to break the vicious circle by establishing a few model documentation services in developing countries or by improving their existing documentation services within the national documentation, library and archives infrastructures. These documentation services should serve to stimulate an "information consciousness" among the people they serve and to unearth the hidden needs.

One of the heartening experiences of AGE thus far, has been the seeing of the changes taking place in the use pattern of its users. Those AGE users who have used AGE's service once tend to make more and frequent uses thereafter. This proves that once a confidence is established, an increased information use can be expected. The awakening of "information consciousness" is therefore a major task of any documentation services in the developing countries.

Conclusion

This paper has presented brief a description of a regional documentation service—the Asian Information Center for Geotechnical Engineering—and some of the documentation problems it has encountered. Since the causes of these problems are quite similar among developing countries in different regions of the world, the solutions to these common problems may also be unified. It is hoped that this paper will bring about further discussions on other documentation problems and their possible solutions so that a joint effort could be developed to improve

documentation services in the developing countries.

Reference

1. Hwa-Wei Lee, "User and use analysis: A case study of the information utility by geotechnical engineers in Asian countries," Paper presented at the 37th Annual Meeting of the American Society for Information Science, Atlanta, Georgia, October 13-17, 1974. 4 p.