
Bibliographic Data Bases from the Network Point of View — In Kathmandu!

Marjorie W. Lindsey

“Seminar On Bibliographic Data Base” read the headline in the *Rising Nepal*¹ that caught my eye. The article went on to announce a five-day regional seminar on the “bibliographic data base from the net-work point of view . . . to be held here (in Kathmandu) under the joint auspices of (the) National Computer Centre, Nepal, and UNESCO Regional Office of Science and Technology for South and Central Asia from November 18 to 22 (1985). About 30 persons from 11 countries of South and Central Asia including Nepal will attend . . . (as well as) representatives of libraries, archive centres, communication media, computer experts and international agencies based in Nepal.”

This was something I especially wanted to attend! Typically, the article did not give a contact person, telephone, or even indicate where in Kathmandu the seminar would be held. I asked a friend, a librarian and British Volunteer (similar to our Peace Corps Volunteers) who was developing a union catalog for the Forestry Department of Nepal, to find out if we could both attend as observers, and where and what time the seminar would open. He found that we would be welcome as observers and that we should be at the National Computer Centre inside the government compound promptly at 10:00 am November 18.

When I arrived I was greeted cordially and invited to remove my shoes and join the seminar's other participants for a tour of the Centre's computer facilities, preceding registration. We were shown the computer room, disk storage room, training rooms, and rooms where data are checked, coded and entered.² Data are received in many forms, mostly handwritten with various levels of legibility, all of which must be checked as carefully as possible before entering. At the time of our visit they were printing out a list of eligible voters in one of the 75 districts of Nepal. We also saw their power supply system which controls the

electricity supply from the city, has a 30 minute battery backup system and a 375 KVA diesel generator.³ The rest of the Centre includes classrooms, meeting rooms, offices and a cafeteria for the staff.

At the end of the tour we donned our shoes and proceeded to our meeting room where each participant, including observers, was given a registration tag, which also served as a pass into the government compound, and a handsome hand woven book bag with paper, pencil, the agenda, and some of the papers to be presented. Each participant sat at assigned places marked by name signs placed on tables arranged in a circle around the room; chairs for observers were set behind those of the participants so everyone could see and hear who was speaking.

The director of the National Computer Centre, Mr. Devi Prasad Chapagain, opened the seminar, welcomed all of us, and then introduced the participants and resource people. First was Dr. Aram Akopov, Programme Specialist in Engineering Sciences with the UNESCO Regional Office for Science and Technology for South and Central Asia, based in New Delhi, India, and chief sponsor of the seminar. Next were the resource persons: Mr. Alan Hopkinson, Information System Manager, The Institute of Development Studies at the University of Sussex, UK; Mr. Lim Chee Hong, Mamarant University, Penang, Malaysia; and Mrs. B. Wilcox, Australian Bibliographic Network, National Library of Australia, Canberra, Australia. Other participants included representatives from Afganistan, Bangladesh, India, Iran, Pakistan, the Republic of Maldives, and Sri Lanka, as well as Nepal. Concurrent with the regional seminar was a national seminar for a number of Nepalese librarians, lecturers, and government officials, who were introduced. Next came the “faculty” for the regional and national seminars. Nepalese librarians and computer specialists whom we came to know well through their papers and formal and informal discussions, and last, we observers were recognized and asked to introduce ourselves.

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Following an elaborate Nepalese luncheon buffet we moved to the garden for the opening ceremonies which featured keynote speaker Dr. Mohan Man Sainju, Vice-Chairman of the National Planning Commission of Nepal, who received his doctorate in political science from UNC-Chapel Hill. Dr. Sainju observed that "the developing countries that missed the opportunities of the industrial revolution of yesterday should not miss the revolution of informatics which is taking place today." He also noted that Nepal's seventh five-year plan, beginning this fiscal year, contains a national computer development policy for the first time.

Our first session featured a paper entitled *Library Scene in Nepal*⁴ by Mr. Kamal Mani Dixit, Librarian of the Madan Puraskar library of about 12,000 books and 2,400 periodicals in the Nepali language. Beginning with early stone inscriptions of the 5th-8th centuries AD, Mr. Dixit described the historical development of temple and private libraries. Beginning in the 1950's, under the Ministry of Education, there was a surge of public library development across the country, but it was short-lived, beset by financial and political constraints. Presently libraries must be registered as associations, undergoing careful scrutiny of any police and political records of the sponsors. "Only after the Home Minister's approval can an association be registered in Nepal... it is an uphill task indeed for an ordinary man or a group to open a library anywhere in the Kingdom." Mr. Dixit went on to describe the Tribuvan University Central Library of 186,000 volumes and the sixty-six campus libraries scattered over the country; the few libraries in middle and secondary schools; government departmental libraries; and some of the special collections in Nepal. None are automated but the academic libraries are probably in a position to begin. He also noted the very popular foreign mission libraries in Kathmandu whose reading rooms are heavily used. Mr. Dixit's key comment, and one later taken up by the seminar as a whole, was that "there is not one authority in the Government who is really in charge of libraries."

Session II opened with brief reviews of the library scene in each of the other participant countries. Mr. Farouq, Member, State Committee for Culture in Afghanistan, was absent, so we began with Mr. Muhammad Anwarul Haq, Chief, Documentation, Library & Publication Division, Bangladesh Bureau of Educational Information and Statistics of the Ministry of Education, Dhaka, Bangladesh. Besides the efforts of his department to automate, other national libraries such as the National Medical Library and the Central Public

Library are considering automation. They hope for a common format, but at present his agency is trying to develop an original format to meet their special needs, using Roman not Bengali alphabets. He noted the value of the MARC format, especially in producing and exchanging national bibliographies, but cited the shortage of trained manpower in system engineering and programming as a handicap to automation in Bangladesh. He also noted that there is no central organization to develop a common format.

Mr. N.K. Pandey, Systems Analyst, National Informatics Centre, Electronics Commission, New Delhi; Dr. S.S. Iyer, Scientist Incharge, National Information Centre for Drugs & Pharmaceuticals, Central Drug Research Institute, Lucknow; and Dr. T.A.V. Murthy, Head, Library Service, Indian Agriculture Research Institute, Pusa Campus, New Delhi, spoke on the library scene in India. They noted that there are public libraries in the major towns, most with limited services; there is a steady growth of special libraries, such as the National Library of Medicine and the National Information System for Science and Technology Library; and that there are some library schools. They are trying to develop software that can be shared among India's libraries regardless of the kind of computers they have. They too noted that the development of libraries is closely allied to legislation.

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Mr. S. Hussain Razavi, Systems Analyst, Member of the High Council of Informatics, Teheran, Iran, noted two developments in Iran concerning data bases: 1) The Academy of Linguistics is developing a system for all languages and alphabets, and 2) research activity is underway for a common software. He noted further that Iran does not have a central national library; rather, the university library is the most important library.

Mr. Mohamed Imad, Technician, Computer Centre, Ministry of Planning and Development of the Republic of Maldives called attention to the communications problems of 183,000 people scattered over their multi-island country. He said they have no national library, only one public library, and only one private library in the country. There are few publications in their native lan-

guage, and they lack skilled manpower. Foreign embassies help meet information needs with their libraries. The Ministry of Planning and Development is undertaking the collection of statistics, such as the census, for the country, and a computer centre has been established.

Mr. M.A.R. Khan, Systems Analyst, Pakistan Computer Bureau, Islamabad, Pakistan indicated that a national library as such does not exist in Pakistan, but they have two nationally ranked libraries. A natural history museum library has just begun, for research only; scientific and technical libraries are located mostly in universities. The Punjab Public Library, the starting point of the library movement in Asia, and now part of Pakistan, has 500,000 books and old manuscripts, the latter being microfilmed. Computerization has not yet begun in Pakistan's libraries, but they are considering beginning with the National Assembly Library. Mr. Khan emphasized that education and literacy are key elements in the development of libraries, noting that of Pakistan's 90 million people, 85% are in villages, with only 10% literate.

Ms. Indra De Silva, Librarian-Documentalist, Natural Resources, Energy and Science Authority of Sri Lanka, Colombo, presented a paper on the various bibliographic data bases in Sri Lanka. The Parliament has designated the Computer and Information Technology Council as the overall body in computer organization in Sri Lanka to advise the government in formulating, co-ordinating and implementing policy, functioning directly under the President. The Sri Lanka Scientific and Technical Information Centre functions as the national focal point of scientific and technical information, has a network of about 100 scientific and technical libraries, and is the only organization in Sri Lanka which uses computer techniques for bibliographic data processing. Three data bases have been created: 1) Union Catalogue of Scientific and Technical Books, 2) Union List of Scientific and Technical Periodicals, and 3) Sri Lanka Science Index. Ms. De Silva described the process of developing first a manual union catalog, and later moving to automation with all the problems of establishing standards acceptable to all participating libraries, finally choosing AACR 2, the Dewey Decimal and Universal Decimal Classifications, and the OECD (Office of European Cooperation and Development) Macro-Thesaurus. Catalog support services are offered to participating libraries. Her description of developing the Union List of Scientific and Technical Periodicals, with information coming from participating libraries in all sorts of manual formats, with various levels of completeness, was a strong reminder of the experience of North Caro-

lina's Western ZOC! The Science Index includes published and unpublished scientific and technical documents relating to Sri Lanka, scientific and technical periodicals published in Sri Lanka, and a collection of scientific and technical articles published in local newspapers. They have a Wang 2200 MVP computer, have developed their own software, and have formulated a transliteration scheme to overcome the inability of the computer to use diacritical marks. They are fast running out of storage space!

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Over the remaining sessions several informative papers were presented provoking much comment. Mr. Saket Bihari Thakur, Documentation Officer of the Centre for Nepal and Asian Studies described AGRIS, the international information system for agricultural sciences and technology under the Food and Agriculture Organization of the United Nations, with 90 member countries. He also described DEVSIS, an experimental Development Sciences Information System program of the International Development Research Centre in Ottawa, Canada, which has received experimental input from several countries including Pakistan, India, Bangladesh, Indonesia, and the Philippines from southeast Asia. Mr. Thakur then noted several major issues in the formation of a regional bibliographical data base and network: 1) lack of common bibliographic format and subject heading list; 2) financial constraints; 3) inadequate trained manpower; and 4) need for study to prepare a "status paper on each participating country, for an expert consultation".

During the discussion Mr. Hopkinson noted that actually nowhere in the world is there absolute agreement on a thesaurus; Mr. Iyer suggested that each country can modify for its own use a standard thesaurus already available, and cited MESH as an example. Mr. Hopkinson also pointed out that terminology is not as firm in the social sciences as in pure science, and suggested using a general thesaurus with key word in title search techniques.

Mr. Krishna Mani Bhandary of the Tribhuvan University Central Library elaborated on the libraries in Nepal, particularly the university system and several research libraries, noting again the lack of public libraries and the poor quality of the few school libraries. He pointed out the advantages of sharing national bibliographies,

and the necessity of networking in the modern world. But he was realistic in pointing out that for Nepal the prerequisite is to convert records to machine readable form. In closing, he said: "There is a great and immediate need for formulating library policies at the National level. This may require a high expert committee."

During the discussion it was pointed out that no librarians are involved in drafting and submitting library policies for Nepal, and that this seminar could make a strong recommendation in that regard. Mr. Thakur pointed out that Bangladesh and Pakistan also lack library legislation regarding a national depository of government publications, whereupon Mr. Iyer noted that India has six such laws! Mr. Iyer further suggested that Nepal should develop a strong library association, noting that more can be achieved through such an organized effort. Mr. Murphy pointed out that to further enhance the clout of librarians, there must be an opportunity for librarians to upgrade their skills and be exposed to new technologies.

Mr. G.A. Pradhan, Systems Analyst, National Computer Centre, Kathmandu, Nepal, then presented a paper outlining his design for "library circulation and a bibliography system". While the paper was useful in showing graphically what a system might look like, it soon became apparent that he had not consulted any librarian at all. Several persons pointed out that it would be more cost-effective to modify packages already available and proven than to design a circulation system from scratch, and that a standardized package would be needed to network.

Mr. Prabhat Krishna Kansakar, Computer Engineer, National Computer Centre, Kathmandu, presented a technical paper discussing various computer communication networks, such as local and wide area networks, and describing functions of various hardware needed, protocols and switching methods, flow control, and network security. He took note of various communication channels available via telephone, satellite, and microwave, concluding that satellite might be best for the region using INSAT, the Indian satellite located over the Indian Ocean.

Mrs. Wilcox, noting that library cooperation has always been strong in Australia among all types of libraries, gave a detailed description of the Australian Bibliographic Network, "an automated national bibliographic service based on a cooperative on-line shared cataloguing facility" using WLN software on IBM compatible equipment. She further noted that the WLN software was a proven system with a high standard of records, could be used with their computer

equipment, and was used in New Zealand and Singapore as well as in other countries, making it a logical system for them to choose. WLN is developing a new version, and when available Australia will need to reconcile their system with the new one. When WLN develops a module for on-line interlibrary loan, Australia plans to implement it as well. The network began in 1981 with 8 participants, and now has 109 participants on-line, with 3.5 million holding statements, an average of 3 per title. Mrs. Wilcox commented that although their national library is a legal depository for government publications, they do not get them all automatically and have to "go after" many. She observed that the South Asian region needed the ability to interface in order to share national bibliographies — to use the same formats and protocols in order to share tapes even if lacking a telecommunications network.

Mr. Hopkinson discussed the need for standards, and described in detail the UNESCO Common Communication Format. He noted the several kinds of standards available and indicated that a library system should choose one and then stick to it, before automating. With regard to formats, he suggested that if a country does not have a national MARC, they adopt UNIMARC, an international MARC. He noted the importance of the ISBN and ISSN for countries to establish and use. He describing filing rules, indicating that one has to tell the computer what alphabetic and chronological order mean. For the future he saw open systems communications, universally agreed upon rules for developing authority files, and conversion programs between formats.

Mr. Lim described the MALMARC (Malaysian MARC) system developed in 1978 with UNESCO funding, and headquartered in Panang. There are seven participants currently, five of which are state libraries, and one additional participant outside Malaysia, namely Singapore. Member libraries combined have 1.2 million books and periodicals. They have developed data bases for each institution, including audio-visual materials. They use the university computer center for computer resources, but library personnel to run the system. Software is from the British Library, a well-tested package. Library of Congress and UKMARC tapes are used. Fees are based on the number of full records and amount to about \$1.20 per full record. They have two types of members, founding and subscribing. They use common standards such as AACR2, LC classification, LC subject headings, and NLM and MESH where appropriate. Their network is a bi-directional star-shaped structure. They use an IBM computer with remote terminals connected to the center

through modems and telephone lines. Approximately 65,000 records are processed per year, and 130,000 volumes added per year. Approximately 75% are found on LC MARC tapes, 55% on UK tapes, and 30% created locally for local materials. At present they do not provide an on-line catalog system for the whole country, but they are looking into this. Mr. Lim hopes the National Library will take the overall responsibility for the network, which resides presently in the university. He called attention to the need for proper design and planning, and the training and updating of personnel for successful system implementation. He noted that there are enough tested packages available now that it is not worth doing them on your own. He then observed that if done in-house, computer people will have to be trained as librarians; but the corollary is also true, that librarians need at least basic training to be computer literate. Mr. Lim closed emphasizing that the willingness to cooperate is the main ingredient for success in networking.

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Next we toured three libraries in Nepal: 1) the National Agricultural Documentation Centre of the Agricultural Projects Services Centre under the Ministry of Agriculture, which has 4,200 catalogued documents, 5,000 catalogued books, and 200 journals and serials, and serves as the AGRIS input center and liaison office for Nepal. We also observed the Apple computers being used in the Agricultural Projects Services Centre, under the guidance of an American Peace Corps Volunteer. 2) the National Archives of Nepal where we saw ancient records carved in stone or engraved on copper sheets, and manuscripts handwritten on palm leaves, all carefully wrapped in cotton fabric for protection. The rest of the collection houses edicts of the King of Nepal and other official papers from the Palace. Printed government publications are housed in the university library, not in the National Archives. 3) the Tribhuvan University Central Library, the most outstanding collection in Nepal, catalogued according to standards, and providing full services to faculty, students, government, and researchers, under the directorship of Mrs. Shanti Mishra, who has her MLS from the United States.

The last session of the seminar provoked vigorous discussion of recommendations from the “expert meeting”, held the afternoon before with the resource persons and selected participants.

The first recommendation was that “statutory provision for the establishment and management of libraries and information centres and their services should be made in countries in the region which do not yet have them. Statutory provisions should also be made for the legal deposit of publications.” Another was that “UNESCO provide a consultant/consultants to study the situation in each country, to investigate and make proposals that will satisfy the needs, with respect to standards to enable each country eventually to participate in a regional bibliographic network. The task is to be accomplished before the end of 1986.” Further recommendations addressed the need for financial and technical assistance in training; urged each country to identify a national “focal point” for establishing procedures, standards, and training needed to prepare for a regional network; and requested “UNESCO and respective national governments and educational institutions of member countries to investigate with the International Telecommunications Union the possibility of lower tariffs for the use of telecommunication facilities for the transfer of information within the scope of network activity.”

These countries have a long way to go to achieve a regional network, but a seminar such as this one can raise awareness of the problems and the possibilities; can broaden the understanding of automation, of the value of standards, and of the uses of different kinds of data bases; can develop dialog among statisticians and computer and library professionals in the region; and can stimulate enthusiasm to continue trying for national legislation, responsibility and support as well as the cooperation and support of professionals within each country.

References

1. *The Rising Nepal* is the English language edition of the government newspaper of Nepal.
2. Full information describing computer facilities and services can be found in the pamphlet *National Computer Centre, at the service of the nation*, National Computer Centre, Singha Durbar, Kathmandu (Nepal), June 1985.
3. *Ibid.*, p. 6.
4. Unpublished papers presented at the seminar are as follows:
Bhandary, Krishna Mani. *Library system in Nepal*.
De Silva, I.R. *Bibliographic databases — Sri Lanka*.
Dixit, Kamal Mani. *Library scene in Nepal*.
Haq, Muhammed Anwarul. *Country paper of Bangladesh on educational information: needs and issues of a database in Bangladesh*.
Kansakar, Prabhat K. *Introduction to computer communication networks*.
Pradhan, Gem A. *Database designs for library circulation and bibliography system*.
Thakur, S.B. *Mechanization of library/information services; bibliographic control for information networking — a regional perspective*.