BUILDING LIBRARY COLLECTIONS AND NATIONAL POLICY FOR LIBRARY AND INFORMATION SERVICES

Seminar Papers
Thirtieth All India Library Conference

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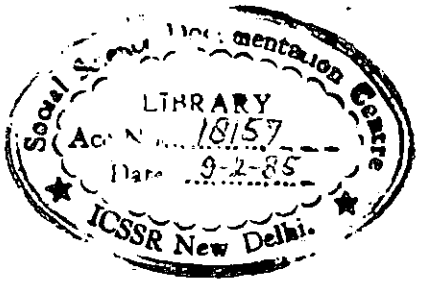
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CONTENTS

PREFACE vii

LIST OF CONTRIBUTORS ix

National Policy for Library and Information Services

1 Guidelines for the Formulation of a National Information Policy—*M A Gopinath* 1

2 India's Need for a National ~~Library~~ and Information ~~Policy~~—*B P Barua* 26

3 National Policy for Library and Information Services—*N Ganesan* 33

4 National Information Policy for the Development of Data Bases in a Welfare State Like India—*Baman Parida* 39

5 National Policy for Library and Information Service—*Mahendra Nath Borah* 55

6 National Policy for L & IS : Impact of Informatic System on Products, Users and Services of Libraries—*Jogesh Misra* 59

7 Information Technology and the Planning of National Information Infra-structure in India—*H N Prasad and V K Mishra* 65

8 Information Technology : Its Impact and Policy Implications—*P S G Kumar* 70

9 Developments in Information Technology and their Use in Libraries and Information Centres—*V K Rangra* 80

10 National Policy for Development of Data Bases in Science and Technology Libraries—*Gopal Prasad Sahu* 90

11 Developments in Information Technology and their Impact on Production and Use of Information —*T K S Iyengar and H R Achyutha Rao* 102

12 Towards a National Policy for Library and Information Science Education and Manpower Development —*Amitabha Chatterjee* 113

13 Information Management—*M N Seetharaman* 118

14 Social Science Research Libraries/Information Centres in India : Status Report—*S P Agrawal, Manohar Lal and Meena Walia* 129

Collection Development in Libraries

15 Ethics of Collection Development in University Libraries—*R S Sexena* 145

16 Role of Users in Collection Development in University Libraries in India : A Study—*Sewa Singh* 154

17 Developing Reference Collection in Academic Libraries of the United States : Observations and Views—*Jyoti Pandit* 164

18 Allocation of Book Funds to Different Departments of Universities in India—*S M Shafi* 168

19 Development of Book Collection in College Libraries in Kerala—*D M Bavakutty* 177

20 Collection Development in College Libraries—*Sister M. Esperanza A C* 181

21 Collection Development in College Libraries—Need for a Policy : Observations and Suggestions—*J K Anand* 192

22 Information Technology and Collection Development in University Libraries—*H R Katyal* 199

23 Information Technology in Collection Development —*Navjot Kaur* 209

24 Collection Development in Madhya Pradesh University Libraries—*A Tejomurty* 213

25 Curriculum Requirement, Cellection Development and User Satisfaction in Academic Libraries—*Girja Kumar and P K Jayaswal* 223

26 Allocation of Document Funds in a University Library : A Case Study—*R C Patil and C R Karisiddappa* 246

27 Collection Development : A Case Study—*J C Tandon* 255

28 Collection Development Policy and Philosophy in College Libraries—*S Sharma and S Singh* 269

29 Techniques of User Studies in the Development of Library Collection—*P K Patil* 290

30 Collection Development in Scientific and Technical Research Libraries in India—*Surendra Nath Mehta* 295

31 Collection Development in Specialised and Research Libraries—*P P De* 308

32 Collection Development in Special Libraries —*A J Gandhi* 314

33 Collection Development in Special and Research Library : American Studies Research Centre : A Case Study —*Sreenidhi Iyengar* 322

34 Book Procurement Delay : A Demotivator to User Participation in Collection Development—*M S Sridhar* 329

35 Collection Development in Public Libraries in India—*G L Trehan* 335

36 Financial Resources of the Public Library System in the State of Karnataka—*S R Ijari* 343

37 Building-up of Periodical Collection in the Field of Zoology Using Citation Analysis as a Tool —*Umesh Narain Mathur* 352

38 Budget Allocation and Trends in Book Prices and Periodicals Subscription Prices : A Case Study—*Janak Raj* 368

39 A Comparative Study of Subscription of Periodicals Published in India, U K and U S A—*K Navalani and Karam Singh Ganda* 388

40 Collection Development, Citation Analysis and User Studies : A Case Study of Periodical Subscriptions in Economics—*Girja Kumar* 417

41 Role of the Subscription Agents in Serials Collection Building in University Libraries : A Case Study—*S P Singh* 430

42 Problems in the Acquisition of Publications of State Governments—*Mohinder Singh* 439

43 Bibliographic Control of Scientific Serials with Special Reference to India—Some Observations —*Shailendra Kumar* 452

44 Collection Development through Resource Sharing : A Plea for Cooperation between DUL, JNUL and ZHL —*A R Sethi and S Majumdar* 465

45 Problems with the Less Used Books and their Storage : A Case Study—*Nanda Dulal Basak* and *Binod Bihari Das* 472

46 Book Reservoirs—A New Feature in Library Areas —*P V Mehta* 480

Other Papers

47 Trends in Book Prices and Periodical Subscription Rates —*N B Choudhury* 487

48 Collection Development in Children Library —*Karuna H Purohit* 490

49 Community of Readers and their Library Needs —*A K Sinha* 495

50 Children and School Libraries—Utilization of Government Networks—*V Srinivas Reddy* and *O Bhuvan Kumar* 499

51 Collection Development in the Libraries in Gujarat —*H J Upadhyaya* 506

52 Copyright—*Abdul Majid Baba* 511

53 A Culture in Exile : Tibetan Repository at Dharamsala —*Karma Gyatsho* 522

PREFACE

Libraries are now universally recognized as important social institutions. No community, institution or organization is considered complete without good library services. The gradual spread of the concept of democracy, of socialistic pattern of society, the extension of education, the intensification of research activities, the rapid increase in production of recorded knowledge both in print and non-print forms, and vast innovations in information and communication technology have led to the expansion of libraries information centres and systems as well as development of their services. A public library today is considered as an important element in community life, an academic library is an essential part of an educational institution : school, college or university; and a special library is indispensable in government departments and large business or industrial organizations. Interlinking these libraries in network(s) or library and information systems is an academic, scientific as well as economic necessity so as to make their resources and services available to everyone living anywhere in a form which would suit him and at a time he needs them.

The recognition of the vital role libraries can play in educational, scientific and all round development of the country is a rather recent phenomenon which has received emphasis and support during the past three decades or so. Actually it is only after independence that the stimulus for the growth and development of libraries, documentation centres, and information centres and systems and library education has come primarily from the progress in and extension of education,sc ientific research and programmes of socio-economic development. These programmes of national development and reconstruction were started in 1951 with the commencement of the first five-year plan and the sixth five-year plan would be ending in early 1985.

Developing a well rounded document collection is an essential element in organising an efficient and effective service in the libraries and information centres. The need for a well-evaluated and selected document collection has become all the more urgent in view of several factors such as : large proliferations in the universe of subjects, complex and varied information needs of the users, rising costs of documents and use of computers and other gadgets of information technology—in information handling as well as dissemination. It was therefore quite relevant for the ILA to choose this topic as one of the topics for this Conference for which the papers

written by fifty-three different authors have been included in this publication. These papers deal with various aspects such as collection development in differen types of libraries, viz, university, college, public and special and also discuss problems in the acquisition of different types of materials. Certain aspects with regard to the bibliographic control of these publications as well as their storage and resource-sharing have been discussed in some of the papers.

Another important area included in this publication deals with the need for a National Policy for Library and Information Service in the country. The need for such a National Policy has been well emphasisd in seminars and conferences in the country during the past 20-25 years. This aspect has been further reiterated in the Report of the Working Group of the Planning Commission on Modernization of Library Services and Informatics which was submitted to the Planning Commission in July 1984.

A draft document for National Policy has been prepared and circulated by the Raja Rammohun Roy Library Foundation as well. Incidentally, I happened to be associated with both these; as Member Secretary of the Planning Commission Working Group and as a Member of the Working Group of the Raja Rammohun Roy Library Foundation.

The job of an Editor for papers for a conference at the national level is always difficult and challenging primarily because of the fact that he should keep the basic contents of the papers intact and should at the same time ensure that all papers properly fall within the overall framework of the conference. I must, therefore, add that as far as possible the editing exercise has been done mainly to prune and improve the contents and not to change the basic discussion presented by the author in his or her paper.

I am sure that the authors and participants would find the papers finally being presented in the volume as relevant and useful for their discussion in the Conference.

I must add that I am grateful to the ILA Executive for assigning me this responsibility and I have tried to do my job in the best possible manner.

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Editor

January 18, 1985

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DEVELOPMENTS IN INFORMATION TECHNOLOGY AND THEIR IMPACT ON PRODUCTION AND USE OF INFORMATION

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H R Achyutha Rao

1 INTRODUCTION

Human activity of the present day is the sum total of not only man-power, capital, raw materials and production, but also of information, the availability of which is highly improved by modern technologies and methods. Production of conventional forms of books and scientific papers in journals has grown in size and range since the middle of the 17th century. The libraries of the bygone days were temples of storage and the librarian its miserly custodian. From papyrus to paper back was itself a long story of development from incunabula and paper in its various forms. Short is the leap from paper to non-paper formats like microforms with the accompanying manifestation of large range of storage retrieval and viewing media. Shorter still is the time gap, if we take into context of generating and storing information by computerised type setting, camera ready copy and direct capture into computer store using word processors and facsimile equipment. The contrast is wide and clear in terms of size, economy and time in the generation of information by way of books, journals of the conventional form.

Science rests on experiments; its results are attained through talks among those who work in it and who consult one another their interpretation of these experiments. Scientific publishing has grown in size and range since the middle 17th century. This 'System' has now grown large, costly and slow as evinced by a British Library report of 1981. Number of 'Systems' have been developed for communication, over years and "Electronic Journals" as substitutes for print on paper have attracted attention over the past decade.

Optical digital disc stores large number of papers and at low cost, allows

rapid access and longer storage life than the magnetic media. The error-free life of these discs is estimated to be around ten years unlike Print on Paper, and warrants re-recording at intervals. Electornic displays for reading primary publications cannot completely replace paper until they have the advantage of the printed journal, which can be read in widely differing surroundings. Electronic storage allows, printing on demand (but not the total bulk) by using equipment similar to plain paper copier, which in turn makes possible electronic transmission and local printing. This process avoids central printing and transmission by mail. The choice therefore, have to be made on relative costs, since the need of storage, printing and transmission of information of an Engineer, Physical Scientist and a Biologist greatly vary. Any system must do what people want it to do.

The application of technology can improve aspects of the system, but it is first necessary to consider the needs of user, and the objectives, nature and limitations of the present systems. The production of secondary Journals, such as Indexes and Abstracts have used technology extensively but not for primary information and full length papers. A technically feasible system may not necessarily benefit users. We must be concerned therefore not with what a developed technology can do to change the existing system, but with how it can help different community of users.

2 CHARACTERISTICS OF RECORDED SCIENTIFIC COMMUNICATION AND THE LIBRARIES' ROLE

The essential chracteristics of recorded scientific communication system, built over 300 years, are its accessibility, and the preservation of standards by editorial and refereeing system. All recorded information fall into three main categories.

2.1 Primary Publications

Which consists of original papers usually in issues of journals regularly published containing refereed papers.

2.2 Secondary Publications

Abstracts and indexes of titles which aim to indicate the subject and approach of a paper. These are now available direct from electronic data bases that can be interrogated on behalf of an inquirer, or increasingly searched from a distant terminal by a librarian or an inquirer himself.

2.3 Tertiary Publication

To this category called tertiary material, fall the reviews, articles describing advances and Text books. The role of Libraries in the transfer of information by published documents is given in Fig. 1.

In an academic and research environment, the libraries are charged with

a heterogeneous clientele in terms of their varied needs and demands. With this focus of attention of an actual or potential user, equipping with resources and service of actual and anticipated demands and hiring of trained professional staff to give services, we get into a situation wherein library becomes a tripolar system.

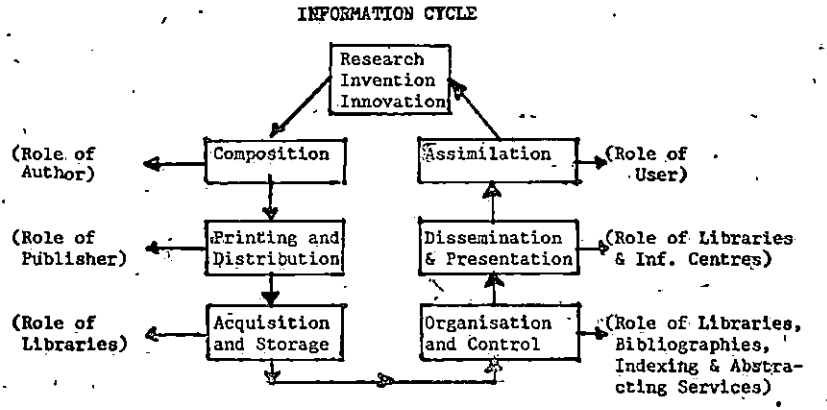


Fig. 1. Role of Libraries in the Transfer of Information by Published Documents.

3 THE USER NEEDS

The users of an Information System are primarily authors/researchers/subject specialists, and secondly librarians and other providers and operators of information system, conventional and/or automatic.

The author/researcher/subject specialist use the system, altruistically, to add to knowledge in the field and, practically, to establish his/her priority and reputation. He/She would like his work to be available as widely as possible, and prefers to be read. With the time that it now takes to get a paper published, his/her results will probably be known to established workers in his/her field before they appear in a journal, through informal discussion, meetings and reports. Others may know through correspondence, visits and conferences. Unrestricted availability of full text papers is an essential ingredient of scientific progress. With the increasing interaction between different branches of science, the need arises for workers in some disciplines to become acquainted with results in others.

Use of literature by the readers falls into two main groups. The first is to maintain current awareness of one's own field, in related subjects and for general interest. The second is for reference to the archive. The former relies on primary publications, the latter relies on abstracts and indexes.

4 LIMITATION ON THE LIBRARIES

The size and the rate of growth, and change in the pattern of collec-

tion, storage and transmission of information is one of the major limitations on any library. No library can boast to be self sufficient in terms of collection, storage, organisation. Retrieval has its parameters on the staff requirement, technology used at any one stage. This is more true in a developing country like ours.

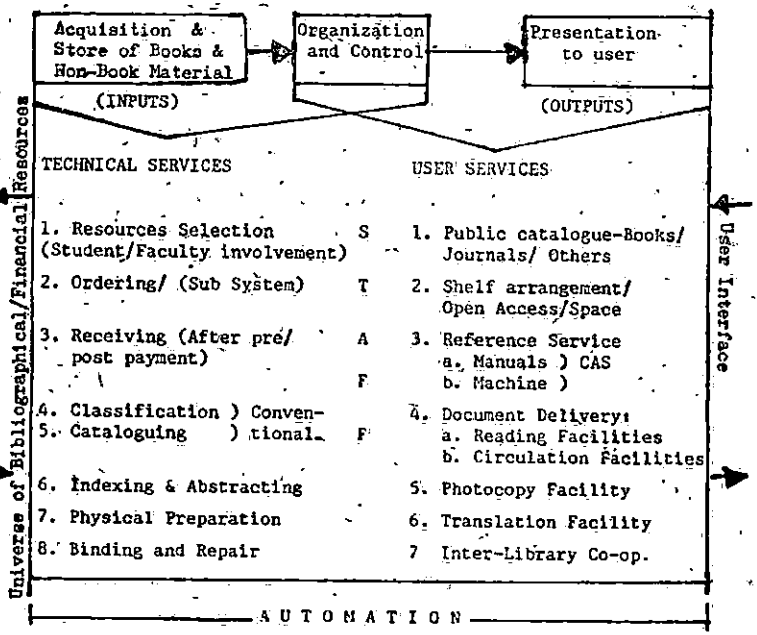


Fig. 2. Library Organisation and Functions in the light of Resource Staff and User Interface.

Another important limitation is the rise in the cost of Journals. Personal acquisition of primary journals is getting beyond the means of individual workers, and total requirements are straining the resources of even the richest libraries.

5 INSTITUTE'S PERSPECTIVE

The Indian Institute of Science Library's organisation and functions fall pretty close to this universal set up with a tilt to local situation. The Library of the IISc has grown simultaneously with the Institute, discharging the information needs of its users from time to time. By about the middle of Third plan period i e, 1969, the library started taking a relook in terms of its resources, infrastructure, its staff and services and setting a new goal.

The Journal budget of the IISc Library over a period of 5 years has

always fallen short by 3^{L}—5^{L} lakhs, because of the escalation of prices, and there has been a constant effort, not only to maintain the present level of over 2,000 journals but also to add journals in the newer discipline. The prices of secondary publications have also escalated so much, that it is even beyond the scope of some libraries to acquire.

6 THE TECHNOLOGICAL POSSIBILITIES

In order to reduce the limitations of the existing information generation, its organisation and transmission, technology has already made its impact. Electronics has made possible the generation and searching of databases of abstracts. Electronic equipment has been used for typesetting. This can even be replaced if the author provides his paper in a form suitable for photography, from which a lithographic printing plate can be produced. The increased use of camera-ready copy should be one step in reducing the cost of production. A direct entry to a computer store made possible by using electronic word processor is another alternative in reducing time. Word processors are now available with multiple head prints which can produce text including mathematical symbols. The word processor helps to communicate with each other over the telephone network and offers transmission and revision of text between authors, editors and referees and printers electrically, instead of by typed copy sent by mail. The only limitation of this, is the availability of compatible euipment in each location. The disparity and compatibility can be overcome by agreement on standards at international level. There has been some progress on this direction. It has been planned to introduce standard "Telex" in a number of the countries in coming years by the concerned telecommunication authorities. The word processors used for information generation have to use the same standards. Word processors and electronic transfer (whether by telephone line or despatch of discs or tape) seems to be the most suitable means for input of the text. Facsimile transmission or T V system will have to be used for capturing illustrations and pictorial information.

It is estimated that an A4 page of text (295 mm × 210 mm) typically contains 60 lines each of 80 characters, ie 4,800 alphanumeric characters. Each character may require 8 binary digits (bits) and a page of text then contains about 38,000 bits of information. Non-textual matter in a A4 size page typically contain from 40 to 400 *Picture Points* per centimetre. A photograph of 100 picture points per centimetre occupying a quarter of a page will contain about 750,000 picture points with an information content of about 5 million bits or 15 million bits for a colour photograph.

Application of electronic technology definitely increases the efficiency, reduces the cost of the preparation and production of information in paper form if its introduction is not limited by resistance to change from

present practice. Chore of technology therefore can both influence and be influenced by the choice of system. Photographic microfilms have not been widely accepted as media for science and technology information systems. Only a small proportion of it are available in microfiche. The major objection to microform is the requirement of a reading machine not easy to use and portable, and printed copy quality is poor. The advantages are of course little storage space, the readers and reader printers are cheap compared to electronic gadgets. The disadvantages are overcome by portable readers, COM (Computers on microfilm) retrieval with better hard copy quality. But these improvements unfortunately are not cost effective.

Magnetic tape and discs are well established for use as computer storage and retrieval media of information. Optical storage offers greater information packing density, greater freedom from errors generated in use and more permanence. A large number of companies in developing countries are now interested in optical disc recording (both for T V compatible and computer compatible) for entertainment, education and instruction, office automation and information storage and retrieval. Electronic displays and printouts have also increased the speed of transmission and delivery.

It is unlikely that, as long as print on paper editions are published, a library will hold less than one set of copies of any journal in the specifications of its users.

A group of publishers, led by Elsevier, are going ahead with a project called 'ADONIS,' for electronic storage and subsequent delivery of copies of already published scientific technical and medical articles. 'ADONIS' aims to retrieve, print and despatch a copy of a requested article within 24 hours of receipt of the order at a price which would be competitive with present photocopying services.

7 THE ECONOMICS OF NEW TECHNOLOGY

Though a great deal has been said about the technical possibilities, much less has been written about the comparative cost of introduction of new technology. Electronic strorage, organisation and retrieval is favoured if the cost of paper printing and storage rises. If every paper in every issue is read in the library by several persons it is very difficult to compete with the present system. The cost per paper per reader becomes high with less use of libraries, then *paper less libraries* or electronic storage and transmission will prevail. The transmission cost has to be compared with the present paper delivery, mailing them by air mail. Considerations of comparative costs, users needs and technical possibilities will help one cost to draw conclusions on the benefits of technology.

8 THE INFLUENCE OF THESE CHANGES ON THE LIBRARIES

The developments in the fields of electronics and communication technology has had its profound effect on the conventional libraries, both big and small in its own way. It is economically not feasible to transfer all of the existing stock of information to new media.

Whatever may be the impact of technology, the libraries may have to continue to deal with the information in the present form at least in the developing countries for some more time to come. This is in terms of cost effectiveness, changes in duties of staff and capabilities; equipment and layout; change in storage space, standardization in the format of transfer of information; educating the user and their reaction.

9 SUGGESTIONS FOR ACTION

The development in electronic input of text, data and on storage of information; its recall, display and printing has been rapid in the last decade. A great deal has been written as well. But unfortunately these do not add up to a coherent approach by those who will be most affected; i e the authors, university librarians, information officers and readers. The complete electronic system is not with us still, nor will it be in the immediate future. These changes necessitate to identify, study and define user needs, review technical developments in information technology : study comparative costs and consideration of those standards which must be established to avoid a plethora of incompatible systems and equipment; educate authors and readers on how to use new technology.

10 DEVELOPMENT OF THE INFORMATION SECTOR AND INDIAN SCENE

Towards the 21st century, many developing countries will probably have become industrialised. What should these countries strive for beyond industrialisation. Of course, there is no set goal or path for all developing countries to follow in their national development. It all depends on that country's history, natural endowment and ideological leadership, among other factors. After a developing country has become industrialised, it should not just be catching up with advanced countries.

Even if a country like India does not intend to compete with the advanced nations, it cannot avoid dealing with the nature of the information society that is growing in the global community. Thus, whether or not the developing country chooses to become an information society, it behoves it to develop its information sector along with the agricultural and industrial sectors in its strategic planning for national development. The explosive development of information technologies represented chiefly by the com-

puter and telecommunication systems as accounted earlier in this paper is responsible for the advent of 'information society.' In less than three decades, the computer industry has emerged from virtual non-existance to become a dominant factor in society through four generations of technology. The current thrusts of the computer field include both the super computers, micro computers and mini computers—their growth continuing unabated.

The potential applications of micro-computer are so diverse and pervasive that some social historians suggest that it may well rank as the third major cultural invention of the 20th century following the automobile and television. Among the many expanding frontiers of telecommunication technology, beyond the telephone and the television, are satellites which make the cost of communication practically independent of distance, and fibre optics, can become the super highway of telecommunications, bringing all kinds of sound picture and computer information to home and office.

Broadly defined, any technology has three aspects : hardware, software and orgware—the last 'orgware' standing for the organization of man and machines to take advantage of the hardware and software in the provision of certain valuable functions of the technology. This concept is particularly important for 'Information Technologies.' Thus hardware is exemplified by integrated circuits in computers and optical fibres for signal transmission. Software is exemplified by computer programmes and television programmes. Orgware is exemplified by the reorganisation of curricula, administration and research information networking which can help educational and scientific institutions perform their functions more efficiently and effectively.

India is actively participating in UNISIST activities, the International Nuclear Information System (INIS), the International Information System for Agricultural Science (AGRIS) and other systems such as Developmental Science Information Systems (DEVSIS), and the Science and Technology Policy Information Exchange Systems (SPINES). The Indian Council of Agricultural Research is making use of the AGRIS system. Recently, the prestigious National Information Centre (NIC) project under the Department of Electronics came into being with the assistance of the UN Centre. This will operate a national Information System in Support of Government planning formulation.

Among other things, the NIC will also maintain and further improve data management systems related to software for national information systems. With the initiative of the Department of Space of the Government of India, a beginning is being made in using information data bases of the RECON system developed by the European space agencies. It is obvious that the volume and diversity of information for computer processing and its retrieval and dissemination are going to be of a great

magnitude. The centre is fully supporting the information technology programmes.

Even though the Government of India (DST/UGC) has always supported the SDI (Selective Dissemination of Information) plans, orgware is not well planned because of the conflict of interests in individual institutions. Several efforts made in relating information technology to the developing country situation tend to fall because of ideological institutional leaderships. For example, several professed SDI services have wrong priorities. The first basic issue, is to assess the needs of scientists based in universities/public sector/R and D institutions. It means organising user profiles and assessing their needs.

Second comes the issue of SDI tapes and their continuous availability. Except in chemistry, many of these tapes have neither been continuously received or tested nor do the working scientists know anything about it. It is imperative to know first, who is being served, what is wanted, which SDI tapes should go, software, etc. Only then do the other aspects, the purchase of computer, what type, mode of transmission and the application of information technology, come to be considered. All this of course, amounts to proper training methods which are lacking in India, because of too much theoretical emphasis and ideological institutional leaderships.

11 UNIVERSITIES' CENTRE FOR SCIENCE INFORMATION (USCI)

11.1 Objectives of the Universities Centre for Science Information

The Universities' Centre for Science Information has been started at the Indian Institute of Science, Bangalore with the following objectives:

(i) To create current awareness in scientists working in Indian universities by providing an authentic and upto-date abstracting services initially in the areas of Physics, Chemistry, Mathematics, Biology and Earth Sciences;

(ii) to provide to the users, on request, full length xeroxc opies of current papers.

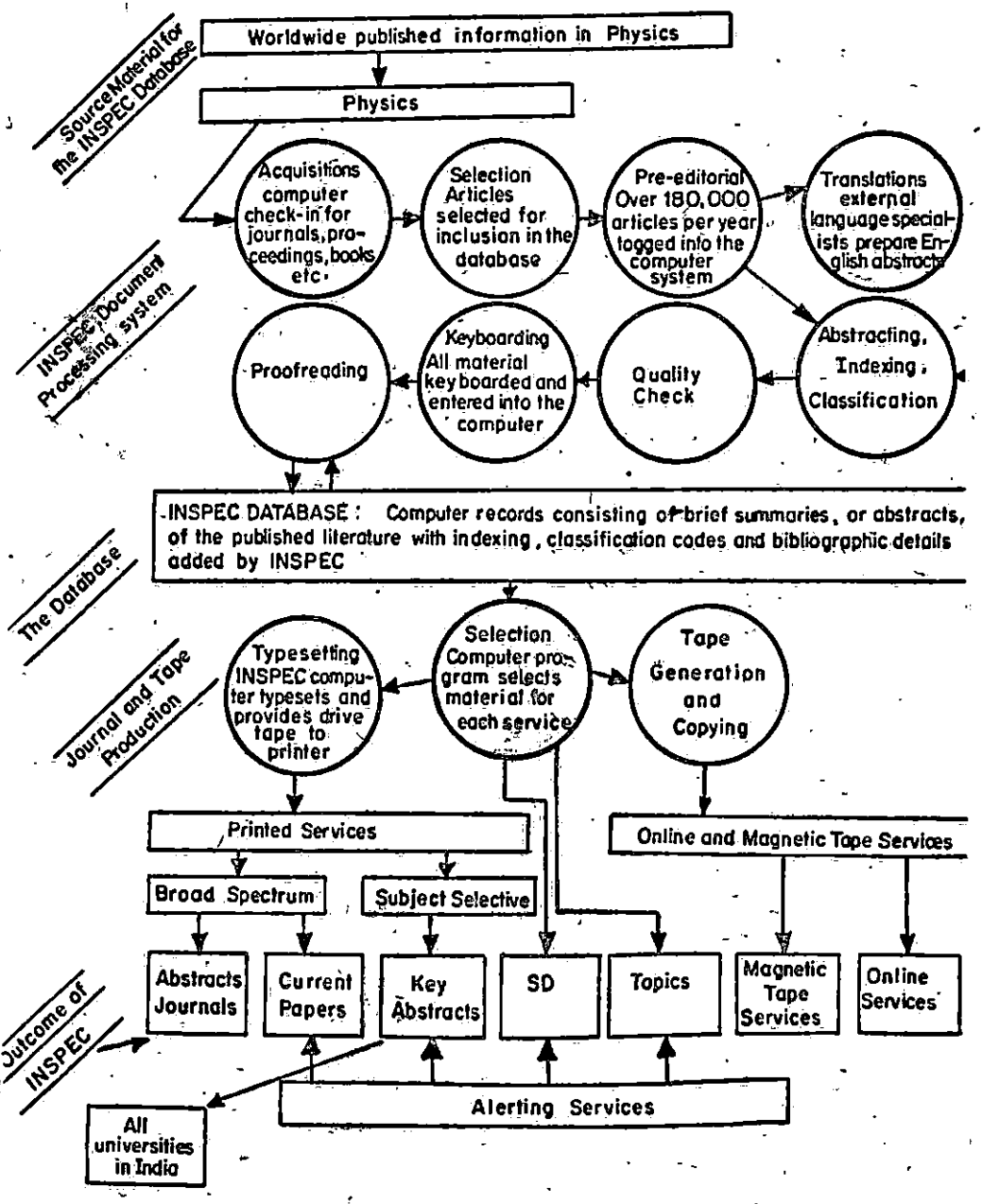
(iii) to educate the users, in generating queries, for their needs, in realisation and optimal utilisation of the information services.

11.2 Basis for Service

The service is initially intended to be available to scientists working in Indian universities. There will be a nominal charge for subscribing to the regular abstracting service. Specific user queries for SDI and the back-up service of providing full length papers will be charged depending on the service.

The INSPEC Database

FOR UNIVERSITY LIBRARIES IN INDIA



11.3 Services to be Provided

The Centre has started from April 1984 providing a monthly/bimonthly computer generated hard copies of abstracts in the fields of specific interest to the faculty members of the Indian universities. The centre also runs an SDI service in response to queries besides providing them with a back-up facility for obtaining copies of full length papers.

11.4 User Involvement

The Centre for Science Information plans to maintain a close monitoring system on its performance through critical feedbacks on the utilisation of the information services provided to the scientists. Representatives from all universities will be invited to the centre to voice their suggestions on the improvements in the services. The centre besides helping individuals in educating them in the usage of the service, will also spread the culture through organised workshops and publications. The centre will maintain a continuous dialogue with its users.

The success and effectiveness of information technology in a country like India is directly correlated to the reliance of scientists on information technologists and not on parallel operations and misplacements of priorities. Even though the government has supported the information sector in the sixth plan period, such parallel operations will make the government's money a drop in the ocean.

It is relevant to mention here UNESCO's 'International Seminar on National Information in Policy and Planning' held at Dubrovnik, Yugoslovia between 25th-29th June 1984. It highlighted the major issues and activities carried out in the developing and developed countries with suitable recommendations and guidelines.

12 CONCLUSION

The information age has re-changed our profession. Librarians cannot be perceived as appendages to the organisation. We have/will have to become active partners in the 'information flow' where tight interactive information networks and information sources are beginning to merge. Access points to information like phone and terminal have already merged.

Library is no more a *place* but a *function*. This function is to enhance the transfer and flow of information.

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DEVELOPMENTS IN INFORMATION TECHNOLOGY AND THEIR USE IN LIBRARIES AND INFORMATION CENTRES

V K RANGRA

1 INTRODUCTION

Information is considered as one of the important resources for any country. Information explosion, a phenomena of the recent has created problems for proper processing and dissemination of information which can only be solved with the aid of newly developing technologies. Thus fusion of information science and technology has given birth to a new discipline called information technology. The need of this technology arose partly due to the concept of multi-media documents i e the conventional printed book also taking up other forms such as microform, sound records/cassettes, computer tapes, video cassettes/films which require special equipment for their processing and partly to meet the requirement of fast and accurate information and its transfer over long distances.

1.1 DEFINITION

Information technology may be defined as the scientific, technological and engineering disciplines and management techniques used in information handling and processing; their applications; computers and their interaction with man and machines; and associated social, economic and cultural matters.

This is a broad-base definition covering also the social, economic and cultural aspects. It is commonly recognised that the thrust technologies responsible for the emergence of information technology are microelectronics, computing and communication.

1.2 COMPONENTS OF INFORMATION TECHNOLOGY

These include a range of products and systems such as computers, data

networks, information systems, telecommunication systems and services, videotex and teletext, electronic mail, word processors, microforms, and document copying systems.

2 DEVELOPMENTS IN INFORMATION TECHNOLOGY

Information technology has its origin in the processes and technologies related to generation, processing and dissemination/transfer of information. The developments taking place in information technology will be described in the succeeding paras in the same order.

2.1 Generation of Information

Although information generation may be regarded as an intellectual process but when the information adopts some carrier/medium, like paper, magnetic tape, it becomes a saleable commodity. It is the medium which becomes a dominant factor in determining the cost of the information. Document preparation which is the primary stage in information generation has been mechanised to bring about speed and improvement in text preparation with the aid of new equipment such as Word Processor.

2.1.1 *Word Processor*

Word Processor is an electronic equipment used for formatting and editing text or matter for storage in the memory of the equipment or an external storage facility like floppy disk for obtaining outputs repeatedly with desired changes. Word Processor has a keyboard for inputting the text, storage unit in the form of magnetic memory, microprocessor-based logic unit for various functions like editing, storing and retrieving text, video screen for displaying the matter being typed to give veriety of character sets and type fonts.

Word Processor gives a number of advantages over an ordinary type writer such as : (i) speed, (ii) variety of character sets and type fonts for headings, giving print like quaility, (iii) correction of mistakes while keying by looking at the matter displayed on the screen, (iv) computer memory for storage of the inputted matter, (v) printing of a number of copies of the same text with one input, (vi) to call back the text from storage unit and carry out modifications/corrections, additions/insertion of matter.

Besides the normal text preparation, Word Processor has a number of applications in library and information field such as, order processing, periodical acquisition, cataloguing, circulation control, current awareness services, on-line searching, communication medium for electronic mail, composing for offset printing.

In a recent survey carried out in UK on the use of Word Processor in

information services, it was found that there were two main options available; (i) a dedicated Word Processor, (ii) a microcomputer with a Word Processing package. The dedicated Word Processors predominated in the private sector and were installed earlier. In the public sector, there were more microcomputers with packages which were recently installed. Wordstore (a CP/M-based) package followed by Wordskil and CAIRS are the most used packages.

A stand-alone Word Processor costs between £5,500 to £10,000 depending upon its capability and additional equipment.

2.2 Processing of Information

2.2.1 *Computer Technology*

Computers are used for precision and speed, and manipulation of large amount of data involving complex operations. The present day computers operate at speeds upto 30 million instructions per second.

With the advent of microprocessor technology, the cost of computer hardware has been drastically reduced. This was made possible by integrated circuit device, which in turn gave rise to very large scale integration (VLSI) in which 32,000 storage bits can be packed into a quarter of an square inch. A computer which cost about $ 50,000 in 1970s was available for about $ 3,000 in 1980s with more improvements. In the total cost of computer processing, the software cost is much higher, about 90%. Thus whereas the hardware cost is decreasing, the software cost goes on increasing. Amount of storage (memory) required is a key factor in determining the cost of the hardware. Magnetic storage media include magnetic tape and disc devices and magnetic bubble devices. The storage medium with the trade name Drexon, can accommodate 5 million characters sufficient to fill about 10 average-sized books. Computers are often grouped into three categories, on the basis of their physical size :

(i) Microprocessors—Single integrated circuits or chips;
(ii) Microcomputers—Usually large arrays of integrated circuits; and
(iii) Main Frames—Large cabinets full of electronic circuits.

The progression in size also corresponds to a progression in cost and speed of operation. There is, however, no difference in the principles which govern the design of the three different types of computer i.e. data representations, storage and processing methods, interfacing with other equipment etc. Basically microprocessor is a microminiaturised equivalent of CPU of a normal computer and requires the addition of further components in order to function as a computer, often called microcomputer. In this form microprocessor units are used to perform most of the library and

information operations such as stock acquisition, notification (Accession Lists, SDI) serial acquisition, cataloguing, indexing, thesaurus development, circulation control, retrospective retrieval, data base creation, administrative aids.

Software as mentioned earlier is a very costly item in computer processing. Most of the software packages available are machine-bound ie STAIRS (IBM) MINISIS (HP-1000) CORTEX (Zentec ZMS-70).

Artificial intelligence researchers are busy trying to programme computers to recognise speech, read handwriting and identify objects in pictures. Machines now exist that can read a wide variety of typed or printed documents with good accuracy. These machines work best with known fonts and with special inks and paper; handwritten material is still too difficult to process. This process is called optical character recognition (OCR). One such computer system with artificial intelligence called ELBRUS is being developed by USSR, which will be ready in 1985 and will be acquired by India.

2.3 Communication of Information

2.3.1 Telecommunication Systems

The main purpose of telecommunication is to transmit information in the form of signals between remote locations, using electrical or electromagnetic media (including light waves) as carriers of signals. For a signal of a given bandwidth to be transmitted with a defined fidelity by a medium, the bandwidth of the signal must be within the bandwidth of the medium. The investment needed to establish a long distance telecommunication network is quite substantial; it represents two-third of the total cost of the system.

2.3.1.1 *Multiplexing*

One way of exploiting the bandwidth of transmission links more effectively is by accommodating more than one signal in the available bandwidth. This is done by a technique known as multiplexing. Multiplexing is the sharing of a wide-band link among signals of narrower bandwidth requirements. The amount of information that can be sent over a given channel in a given time is dependent on the bandwidth. Thus generally speaking, the wider the bandwidth, the larger the amount which can be carried and faster its speed. The transmission channels in the order of increasing bandwidth are twisted pairs, coaxial cables, TV/microwaves, optical fibres.

2.3.1.2 *Optical Fibres*

Optical Fibres carry light waves (representing electrical signals) by the

principle of internal reflection. Optical fibres besides supporting wider bandwidth, have low transmission loss, small diameter, lightweight, easy bending, ability to handle voice, data and picture information and their effectiveness in general. Transmission can be made upto about 10 km and at data rates of around 45 Mb/S.

2.3.1.3 *Packet Switched Networks*

For voice communication, circuit switching is the norm whereby a path through connected circuits is established. Earlier leased lines or dedicated networks were made available for data transmission but these are becoming displaced in favour of packet switched networks. Whereas circuit switched networks handle information as a continuous data stream, packet switched network consider information to be a sequence of digital messages which can be split up into segments or packets and which are then transmitted or forwarded to the receiver along the most efficient or appropriate path which may not be the same for all the packets. The advantages of packet switching include transmission economics because of shared line utilization, high quality, error reduced service, and the facilities for speed changing and procedures conversion, thus allowing communication between different types of terminals and the interconnection of networks. One recent concept in network design is the concept of the gateway which allows the third party host computers into the network.

2.3.2 *Telecommunication Services*

2.3.2.1 *Videotex and Teletext*

Videotex or viewdata as generic terms apply to interactive (two way) system for transmitting text or graphics stored in computer data bases via the telephone network for display on a television screen. It differs from a time-sharing computer system as a simple, to use, low cost information system catering for large number of users. Some of the important videotex systems in operation are: Prestel (UK), Antiope (France), Telidon (Canada), Bildschirmtext (Germany), and Captain (Japan).

Teletext is a non-interactive (one way) form of Videotex. HERMES in UK is such a service which is expected to be operational in 1984. Its major aim is to demonstrate the use of teletext to the information community and to gain experience in the operation of a document delivery system. Ceefax and Oracle are the other teletext systems in use in Britain.

2.3.2.2 *CATV*

Cable television (CATV) because of its much wider bandwidth can be used for videotex and teletext services which can be transmitted over the

cable. Further more, the medium lends itself to two-way communication and a host of other services.

2.3.2.3 *Electronic Mail*

The concept of electronic mail is based on the fact that the messages are converted to electronic signals for the purposes of transmission, as a result of which paper as medium of the message is eliminated. Input to and output from an electronic mail system can be via a video terminal or word processor, with printer, a facsimile machine or any data terminal including computer vision and voice communication systems. Transmission of electronic mail requires a telecommunication network. The vast majority of electronic mail is transmitted as computer compatible data and travels along data networks. Electronic mail systems include telex, facsimile, communicating text processors, message switched networks and computer-based message systems.

2.3.2.4 *Fascimile*

The systems described above transmit text, data or pictures but they do not give hard copies that are faithful reproduction of the original. Facsimile communication has been introduced which enables a page of text or graphics to be scanned and transmitted via terrestial or satellite links to a remote location. Facsimile communication is developing rapidly with 3 speed groups already available (Group III permits the transmission of an A4 sheet in 1 minute at 4800 Bps).

2.3.2.5 *On-line Search*

On line searching may be defined as the process of interactively searching for and retrieving information by computer from a machine-readable data base. Communication with data base takes place via a key-board terminal with a screen and/or printer to display the interaction and the results. The interposition of a telecommunication network between the user's terminal and the data base computer, has revolutionized the accessibility of the data bases. There are over 700 data bases in the world which cover a wide range of subject fields which can be accessed on-line. On-line industry is dominated by three leading American companies i.e Lockhead, SDC (System Development Corpn) and BRS (Bibliographic Retrieval Service). Lockhead has a comprehensive selection of some 150 data bases through a single password and software retrieval system. The command/search language of lockhead, SDC and BRS is Dialog, GRBIT and STAIRS respectively. It is now possible to enter into the network and access any data base from any place where telephone line is available by using the services of commercial agencies like Lockhead. The cost of interrogating a data base depends very much on the systems operator, the type

of contract which the user enters into, the amount of search time and in some cases whether or not the user subscribes to the print equivalent material produced by the data base suppliers. The present cost range is somewhere between about $ 20 and $ 150 per hour although most of the major, wide-interest files are in the $ 40-$ 60 range. This cost does not include cost of the communication network which can sometimes be higher than the rate for searching.

2.4 Storage of Information

2.4.1 *Microforms*

Compact and inexpensive storage of information especially the documents is a very important requirement in view of the rising cost of shelving space. Microform saves space by 98 percent. The medium used for microforms is photographic film usually 16 or 35 or 105 mm wide. The first two are often in roll film format loaded into cartridges or cassettes. The 105 mm film is usually cut into 148mm length to produce flat microform in A-6 size (105 mm × 148 mm) called microfiche. A microfiche contains an array of images, all of them much reduced versions of the original image. The reduction ratios in current use can vary between 18 and 48. Depending on this, the number of images on a microfiche will be between 60 and 200. The now defunct ultra-fiche could carry upto 3,000 images on the same area of film at a reduction ratio of 150.

Besides saving in space, microforms cost much less than the paper copy and because of lighter weight (3,000 pages weigh about 16 gms) incur less mailing cost. Microforms are easy to maintain and handle. Because of their compact storage, microforms are compatible to computer storage and retrieval and are one of the input (CIM) and output forms (COM).

A large number of journals appear in microform. University Microfilms and Pergamon Press are the two main sources of journals on microform. Pergamon Press offers microform simultaneously with the hard copy issues of its journals.

Microfiche Reader-Printer (with an attachment it can be used for microfilm also) is a necessary equipment for viewing microfiche and obtaining hard copies. It is advisable to use two separate printers for positive microfiche and negative microfiche. Xerox 740 and Micron (Addresso-multigraph) DRP 100 are considered satisfactory machines for printing positive and negative microfiche respectively. More recently, the trend has been to eliminate the separate microform ready-printer device and use the already present visual display unit for both computer and microform output.

2.5 Document Delivery

2.5.1 *Xerox Copying*

With the extensive use of libraries and recognition of the need for

resources sharing, the demand for copies of articles, extracts in the form of separates has increased tremendously, which can be met by a faster, inexpensive and easy to operate copying device. A wide range of Xerox copiers are available in the market mostly from USA and Japan which are multifunctional, faster and use plain paper. Xerox-9500 produces 2 copies per second, can print on both sides of the paper and incorporates reduction, enlargement and automatic collating devices.

3 IMPACT ON LIBRARIES AND INFORMATION CENTRES

The role of information technology is primarily to improve overall efficiency of library and information services. India is just on the threshold of the era of computerisation and use of microforms. Some of the libraries, mostly of the old generation are pessimistic about the utility of computer and other electronic gadgets but they can no longer hold against the wave of modernisation.

The basic concept in the use of information technology is to free the librarian and information officer from the routine jobs like acquisition, classification, cataloguing, circulation control, which can now be entrusted to computer. The time thus saved can be utilized for serving the user. This can be best done by studying requirements of the user and acquiring adequate knowledge of the contents of library collection and information sources available around. The librarian's role will be that of an intermediary who will be involved not merely in providing information but in editing, assessing and providing subject analytical and evaluative input.

As the videotex becomes popular, there will be lower utilization of the libraries, as the patrons can sit at home and get answers to their queries on their TV sets. On-line access to data bases has generated the concept of "libraries without walls" because the literature reported in the on-line searches is scattered in many libraries, some of which may be located in far away countries. The libraries instead of acquiring every thing on their subject field, will depend more on the network, of which they will form a part and share the resources among themselves.

The use of information technology will involve initial capital investment on computer system, microform reader-printer, xerox copier, etc which will pay dividends in the long run in the form of saving in manpower and space and improvement in services.

In order to operate the information technology-based services, the staff will need training and development of learning skills, which they will have to pursue enthusiastically. For example the formulation of search queries in on-line searching, requires intelligence and if done properly before hand, can cause considerable reduction in the search cost. Such jobs as profile construction, data base creation and formulation of search strategy are highly professional and demand due training.

A document delivery system will play vital role in supplying copies of the documents against demand which will grow rapidly with the increased use of on-line search. For this purpose it is necessary to provide xerox copiers, microform reader-printers, computer terminals at each important service points. For faster communication, facsimile transmission can also be used. In India, a facsimile transmission network has been commissioned by *The Hindu* (newspaper), which links Madras, Bangalore, Coimbatore, etc from where it is being published simultaneously.

A future library system could be a local area network (LAN) with microcomputer work stations for reader services and house keeping, shared printing facilities, shared file storage and shared data base and catalogue functions. Gateway accessible from any point in the network will give it direct access to national/international data bases.

4 SUGGESTIONS

(i) The institutions to which libraries/information centres are attached, should encourage the use of information technology for modernisation and efficiency and provide them with necessary funds for this purpose;

(ii) The Government of India should subsidize the purchase of Computer system, Microfiche Reader-Printer, Xerox Copiers, etc by the small and medium sized libraries/information centres; and

(iii) At present there is only one gateway at Bombay, which connects the subscriber in India to the On-line data bases in USA through vendors like DIALOG, SDC, BRS. More such gateways should be opened at major cities in India to provide more direct access points; and

(iv) The computer tapes of important data-bases such as MEDLARS, AGRIS, CAS, INSPEC, COMPENDEX, NTIS should be available in the respective national information centres set up under NISSAT and other agencies for providing SDI and retrospective search services to their respective scientists.

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INFORMATION MANAGEMENT

M N SEETHARAMAN

1 INTRODUCTION

The terms 'information' and 'data' are generally used almost synonymously to mean nearly the same thing. However, UNESCO's publication on 'Terminology of Documentation' (1976) differentiates these terms broadly as : 'data' is a representation of facts or ideas in a formalised manner suitable for communication or interpretation or processing, whereas 'information' is the meaning a person assigns to data. To give an example, 'million', 'people' and '20' are all in the nature of data, but, by themselves, they do not constitute a piece of information. However, if these data elements are structured together as "20 million people", it will become information with a meaning of its own.

2 NATURE OF INFORMATION

2.1 INFORMATION EXPLOSION

Since the invention of printing, there has been a continuous revolution in the generation, transfer and communication of information. Information is now growing at an exponential rate, which is often referred to as the 'information explosion', causing serious problems in information handling. Apart from about 1,00,000 books and monographs which are published *annually* in several languages throughout the world, more than 3 *million* research papers, articles, reports and other forms of publications are published annually, most of them in the very advanced countries. It is estimated that the information output in a *single* year now is more than the cumulative output of information since the invention of printing in 1453 to 1900.

Some of the national libraries, like the Lenin State Library in USSR, the Bibliotheque Nationale in France, the British Museum Library in

London and the Library of Congress each have in excess of 30 *million* books and other publications. The All Union Institute of Scientific and Technical Information (VINITI) in Moscow employs more than 4,000 full time information specialists plus 22,000 part-time staff to process the large volume of publications, translate the information contained in them and to publish abstract bibliographies in more than 200 subjects for the benefit Soviet scientists and research workers.

2.2 Information is Cumulative

Human activity can be viewed as a process of building up knowledge (by learning, experience and storing information) and then applying it, whereupon fresh experience takes place and the cycle continues. More frequently, a person builds his store of knowledge as he goes along, and calls on his experience, when a need arises for a decision. Information is a continuous accretion to the store of knowledge and its range and quality will, to a great extent, determine the soundness of an individual's judgement.

2.3 Information is Inter-Disciplinary

Information has now become inter-disciplinary in nature. The old divisions of knowledge in separate disciplines, like astronomy, physics, chemistry, mathematics and so on have virtually broken down. Each discipline is now interacting with other disciplines and, in the process, new inter-disciplinary information is generated. For instance, the discipline of education has to interact with other disciplines, such as, statistics, sociology, economics, demography, and so on, for its proper planning, growth and development.

2.4 Information Scatter

Due to its inter-disciplinary nature, information is found scattered in numerous sources. For instance, information on education may be found scattered in various related and unrelated disciplines.

3 INFORMATICS : THE EMERGENCE OF INFORMATION AS DISCIPLINE

Today, we are witnessing the gradual emergence of a complex of scientific, engineering and other technological disciplines and management techniques, which are helping us to harness the vast reservoir of existing information and data and to apply them more systematically. This complex of disciplines is now referred to as 'informatics', from the French term 'informatique'.

In the present context, informatics encompasses fields related to design, construction, evaluation, use and maintenance of data processing, information storage and retrieval and communication systems as well as organizational and human aspects.

4 THE ROLE OF INFORMATION IN PLANNING AND DECISION-MAKING

The practical application of information occurs at innumerable points when something has to be done and when an individual has to make a decision. Research and search for solutions to problems both involve gathering information i e locating the relevant facts, figures, ideas, opinions and then applying them to problem situation, and finally taking some form of action or decision to make an improvement. Such decisive improvements, where the importance of information is obvious, occur at all levels and parts of a planning system; for example, in the design and development of a new institution, in framing a research study or in the planning exercises of a Ministry.

5 INFORMATION AS A MANAGEMENT TOOL

Information is now recognised not only as an essential tool but also an essential input for economic and social planning. It provides a means of improving the management of enterprises and services of all kinds. It has become a vital component in the dynamics of social evolution. As knowledge advances and its applications become more diverse and call for further research, precise information concerning the state of a problem is necessary before action can be taken.

6 INFORMATION AS A RESOURCE

Information is now recognised as a vital resource for national development and economy. It has a tangible economic value and significance just like any other industrial commodity. As a resource, it is often compared to electricity. In the famous Weinberg report submitted to the President of USA, during 1963, the various information processes were likened to the switching operations of electricity—its generation, transmission and distribution. Mr David Saronoff, formerly the President of Radio Corporation of America, once said that the impact of fast, reliable and inexpensive information would be as great as that of electricity on national and international economy. International Business Machines, the giant computer company, says that information is like an inexhaustible and renewable source of energy.

7 THE RISE OF THE INFORMATION-BASED ECONOMY

Information has become all-pervasive in the social, economic, industrial, cultural and political development of a nation. There is no field of activity in which information does not form the basis for making decisions and accelerating progress. One of the principal characteristics which divides nations as more developed or less developed is the extent to which information resources are effectively used for nation-building activities. In the more developed countries like the United States of America, more and more people (55% of the work-force) are working in the information processing sector than all other professions combined. It is estimated that more than 50 percent of the GNP of USA is derived from information-related activities.

8 MANAGEMENT OF INFORMATION

From the foregoing considerations, it is quite obvious that information needs to be managed effectively, just like other resources like men, material money etc., if it is to be useful to improve decision making, increase productivity reduce paper-work and rationalize the flow of information.

Till now, information was managed in an informal basis. Now it is being formalised by the application of functions and activities.

According to one definition, information management is concerned with the design, management and evaluation of cost-effective systems (i.e. the appropriate combination of people, information and technologies) to fulfill the objectives of a particular body or group by providing an efficient flow of information to those who need it when they need it and in a manner in which they need it.

9 OBJECTIVES OF INFORMATION MANAGEMENT

The objectives of information management may be briefly summarised as under :

1 to accelerate and support R and D activities by improving ways in which information resources can be applied to them;
2 to effect changes in attitudes, policies and practices on the part of the users of information, so that information comes to be viewed by them as a major asset;
3 to establish a mechanism where only relevant information flows into organisation decisions;
4 to establish and practice techniques that compare costs of creating or collecting information with projected benefits from use;

5 to analyse user requirements before acquiring information technologies;
6 to develop standards and guidelines for information systems and data bases;
7 to design and develop information management tools;
8 to help users in their information production and dissemination activities;
9 to identify potential areas for resource sharing and avoid unnecessary duplication;
10 to establish training, education and career opportunities for information personnel; and
11 to serve as a clearing house for information resources utilization.

10 TECHNIQUES OF INFORMATION MANAGEMENT

An effective information management system requires knowledge and skills from various disciplines.

Some of the modern techniques that are being applied to improve information management are :

1 systems theory;
2 operational research;
3 cost-benefit analysis;
4 planning-programming-budgeting system (PPBS); and
5 management-by-objectives (MBO).

Management Information Systems (MIS) are not considered here because they are primarily designed to aid managers in their functions of strategic planning, management and operational control. MIS is well-established in commerce and industry, although need for MIS exists in areas of development planning (e g five-year plans), natural resources management, manpower planning etc. Information managers and scientists do not seem to be paying much attention to this field, although the organizational skills and the understanding of users that they have acquired would be very useful to the designers of MIS.

Many of the techniques mentioned above share the following performance features :

1 a conceptual phase, in which all desired objectives are defined and crystallized;
2 a criteria formulation phase, in which the performance measures that constitute decision or judgment factors are identified and made specific;

3 an alternative description phase, in which two or more means of achieving the objectives are established;
4 a data collection phase, in which all information (factual and opinion) needed for decision-making is acquired;
5 a data analysis phase, in which the acquired data are assembled, aggregated and compared with the criterion measures; and
6 a decision-making phase, in which one or more alternatives are chosen or a judgment is reached on actual or anticipated performance.

All of the methodologies are directed towards accomplishing one or more of the following purposes :

1 to assess a set of programme objectives, a programme plan or a programme design prior to implementation;
2 to determine whether and how well objectives or performance expectations are being fulfilled;
3 to determine the reasons for specific success and failures;
4 to discover the principles underlying a successful programme;
5 to explore alternatives and techniques for increasing programme effectiveness;
6 to establish a foundation for further research on the reasons for the relative success of alternative techniques; and
7 to reassess programme objectives and programme designs after implementations.

Brief outlines of the techniques mentioned above are outlined in so far as they relate to information management :

10.1 Systems Theory

Systems theory is a concept of flows, networks and inter-relationships.

The systems approach gives an understanding of the flows and networks with an organisation or a system and how the contributions of the various functions help to meet the objectives.

The systems approach provides the information manager with a set of techniques with which he can analyse what is really happening in an operating system or what could happen given certain conditions and enables him to make more effective decisions in relation to changes and developments in the system.

10.2 Operational Research (OR)

OR is synonymous with a body of mathematics which has been developed to solve organisation problems.

Fitting mathematics to a practical situation invariably involves simplifying assumptions. This process is known as modelling and the mathematical structure chosen is called a model.

The OR process may be described as follows :

Gather Data — Create a Model — Draw inferences from the model — Act on the inferences

The OR approach may be employed to depict performance in information system settings. However, a major limitation on OR applications resides in the complexity of many real-world phenomena that defies adequate mathematical representations.

10.3 Cost-Benefit Analysis

The value of information is deemed to lie in its contribution to the advancement of knowledge and it may amply repayt he expenditure incurred on its management.

The standard technique used to evaluate non-monetary benefits, such as those arising from information use, is cost-benefit analysis.

Nominally, cost-benefit analysis addresses all input and output factors that pertain to an information system, including primary and secondary effects, intangibles, non-measurables and long-range impacts. Through appropriate combinations of these variables, cost-benefit ratios are ascertained for alternative courses of action. Pragmatically, secondary effects and non-quantifiables are frequently omitted from computations.

However, the technique of cost-benefit analysis has not resolved the problem of quantifying intangible benefits. It is useful for situations in which such benefits as better quality R and D, teaching and decision-making in information systems can be made tractable.

10.4 Programming-Planning-Budgeting Systems (PPBS)

PPBS is a natural extension of the systems concept in that it is concerned with the performance and cost of operating systems. It was designed to provide an analytical evaluation of existing and proposed work programmes, supported, where possible, with quantitative measures of performance. Where PPBS is applied to an organisation, it requires clear definition of the objectives of particular activities and the clarification of assumptions made when planning those activities. It analyses expenditure in relation to purpose and it also examines both the objectives and the results achieved. It enables the information manager to demonstrate the cost-effectiveness of his services and also, to some extent, the cost benefit.

In applying PPBS, the following questions have to be answered ;

(i) What are the objectives of the organisation ?
(ii) What activities contribute to these objectives ?
(iii) What resources are devoted to these activities ?
(iv) What is actually being achieved ?

A completed PPBS exercise will give the information manager a statement of his overall objectives, the activities he organises to meet those objectives, the cost of each activity and the total cost of each of his services. This input-output analysis will permit comparison of all service activities in terms of the costs of the resources allocated to them.

10.5 Management-by-Objectives

Management-by-Objectives (MbO) is defined as a dynamic system which seeks to integrate an organisation's need to achieve its goals of profit and growth, with the manager's need to contribute and to develop himself.

Basically, each member of the staff, and this includes the manager himself, has certain needs which if met will enable him to do a better job.

First, he has to know what his job is. There must be a clear statement of the objectives of the job and the procedures through which those objectives are achieved.

Secondly, he needs to know what standard of achievement is expected of him. This can be met by drawing up work targets and personal objectives.

The third need is to be given the opportunity to carry out his work effectively and this can be done by proper organisational planning, so that there is a smooth work flow from one group to another and from one person to another and each member of staff knows the range of his activities and authority.

Fourthly, he needs to know how he is getting on and this need is satisfied by a regular series of performance review meetings at which progress, or the lack of it, and any possible problems can be discussed and agreed solutions sought.

Finally, there is need for guidance in achieving improvement and this is met by training. Training is of vital importance in staff development because improved standards cannot be achieved if the staff, through lack of knowledge, are not capable of reaching the required levels.

The main factors in MbO which are of use to the information manager are then, the formulation of objectives, the involvement of staff at all levels in the effective furtherance of those objectives and the provision for continued training.

11 IMPACT OF TECHNOLOGY ON INFORMATION MANAGEMENT

The modern trends indicate that information management will be transformed greatly due to the continuous impact of the newly emerging technologies that are being developed now in generating, storing, retrieving and communicating information.

Some of the notable technologies that would have tremendous impact on information management are mentioned below.

11.1 Computer Technology

Only 20 years ago, a resistor costing Rs 200.00 was put on a piece of silicon chip which replaced 10 vacuum tubes. Now a silicon chip contains more than 1,00,000 components.

The semiconductor technology is moving very fast. M/s Motorola, a leading manufacturing firm of semiconductors of USA, announced a few days ago that they have successfully manufactured a 32-bit chip containing 2,00,000 components which can process 32 different kinds of information simultaneously and execute 8 million operations per second.

The developments in semiconductor technology have caused a revolution in computer hard-ware resulting in the emergence of the new fifth-generation super computers (e g Cray—Research computer) but also a host of mini and microcomputers. The desk-top and personal computers are now invading the office environment with specially written software for word-processing, data manipulation and display, colour graphics etc (e g IBM PC, Apple II etc).

The most spectacular advances, that are now taking place in the field of software development, are in what is known as 'Artificial Intelligence (AI)'. AI is performing tasks that were once thought to require human intelligence. To-date, there are more than 50 AI systems in existence. AI is considered to be the most significant advance in computer technology since the invention of the computer itself.

11.2 Communication Technology

Since the advent of the telegraph and telephone during the 19th century, the communication technology has made rapid advances. It is now possible to transmit data over the ordinary voice grade telephone circuits at the rate of 110 to 300 bauds per second. Higher speeds of transmission upto 2,400 bauds are possible with microwave circuits.

Communication satellites have greater bandwidth or capacity to carry packages of voice, data and graphics all on the same channel. Data transmissions through satellites will be 500 times or more faster than ordinary

telephone lines. Satellite transmission will be the harbinger of the electronic mail of tomorrow, involving communicating word-processors and facsimiles.

11.3 Merging of Technology

While the spectacular growth of computer technology and the communication technology in the last few decades is notable what is even more significant is the rapid way these technologies are merging. The computer and communication technologies are not only merging but are also converging with related technologies, such as, reprography, micrographics, audio-visual and office technologies.

11.4 On-line Information Networks

The possibility of networking local and regional information systems throughout the country or even, ultimately, throughout the world could greatly expand the public access to the information needed to function effectively in tomorrow's technological and mobile society.

The widespread public and private sector applications of networks in the western countries strongly support the concept the information technology is becoming extensively internationalised. Several public networks based on latest packet-switching technology have been set up in USA, Japan, Western Europe, UK, Canada, etc.

These developments in the computer and communication technologies are affecting information management by improving :

1 information generation—via word processors, dictation systems and even copiers;
2 information filling, storage and retrieval, where developments focus on micrographics; and
3 communications—combining techniques of facsimile, communicating word processors and automated telephone systems.

12 CONCLUSION

In all countries where the value of information is recognised as crucial, information management has made tremendous advances in recent times. In these countries, notably, the USA, Canada, the Soviet Union, Britain, France, West Germany, and Japan, the governments concerned act as the major or coalescing forces for planning and developing information management systems and services. In some of the countries, and in the United States in particular, considerable planning of information services take place in the private sector also.

International Organisations too are creating the information modules

that, when aggregated, can become true national information systems. By way of examples, a few of these systems familiar to us are : the global weather information network, the International Nuclear Information Systems of IAEA, the International Road Research Documentation, the International Agricultural Information System (AGRIS) etc.

There are also several commercial interactive information systems, like those of SDC, Lockheed, Tymnet, GE, etc; the several major airline reservation systems; various commercial bank information systems; library information systems, and legal information systems.

In India too, information management systems have made a modest beginning with the setting of the National Information Systems for Science and Technology (NISSAT) under the auspices of the Department of Science and Technology of the Government of India.

The Department of Electronics have also set up a National Informatics Centre to develop information management systems for the various departments of the Government of India.

The Ministry of Communications have also announced recently the setting up of a National Telematics Development Centre to modernise existing telecommunication facilities. The Ministry are also planning to set up a data transmission network for the country.

The UGC have also supported a project for setting up a Science Information Centre in the Indian Institute of Science, Bangalore, for the benefit of Indian universities.

There are numerous other plans on the anvil for similar information systems in the country which eventually would be interconnected to become a national information gird for collection, organisation and dissemination of information not only in the areas of science and technology but also in commerce, industry, management, economics and social sciences.

INFORMATION TECHNOLOGY AND THE PLANNING OF NATIONAL INFORMATION INFRA-STRUCTURE IN INDIA

H N PRASAD
V K MISHRA

1 THE ERA OF INFORMATION TECHNOLOGY

A country's economic growth is increasingly dependent on the tempo of scientific research and on the ability to apply the results of that research rapidly and completely to production. During the present century there has been an exponential increase in the volume of recorded knowledge and a revolution in the control and transfer of information by means of electronic technology. The role of science has reached a level of development at which the productivity of a scientist increasingly depends on a streamlined and efficient organisation of scientific activity and the speed with which he is supplied with specific information. These changes have not only brought the resources specialization of media, library and information science into a closer working relationship, but have been the impetus for the creation of a new profession, that of new communication. The need for resource sharing and computer networking have made it difficult for these three specialization to function into outmoded autonomies.

The common profession of communication whose objective is to develop communication services based on a network of all encompassing resources infrastructure, has emerged from the specialization of media, library and information science.

2 ROLE OF TECHNOLOGY

Technology is dominating every sphere of human activity, whether it is electronic technology, computer technology or industrial technology. The

information technology in itself is a vague term and it is difficult to provide a specific definition. The technology is now a major factor and is offering a number of choices in its application to the acquisition, storage, retrieval and dissemination of information. Every now and then we hear of information revolution and information-based society. This has been due to tremendous developments in computer, communication and information technologies. Every nation is striving hard to create a network of information systems and centres, so that information could be channelised and geared towards the actual and potential *users*.

3 NEW DEVELOPMENTS

Each country is expected to take into consideration the developments in information technology, and, the ways in which they could be implemented and utilized for a better information service and products. The developments in information technology relate to : (i) processors, memory and input/output channels, (ii) micro, mini and large scale computers, (iii) mass storage technology, (iv) data communication, networking and distributive processing, (v) data entry, display and response technology; and (vi) software. The new information storage devices being widely used in informations torage and retrieval include : (1) Magnetic disc tape drum, (2) Optical fische, film-disc, holographs, (3) Bubble, and (4) Semiconductor. In the area of communication technology fibre optics is relatively new technology that permits data transmission at a high speed.[1]

Bibliographic databases have also grown rapidly in variety and number. The recent statistics reveals that in the US alone there are about 500 databases and about 300 outside the US. A number of on-line information services are available today on commercial and institutional level. The reproduction technology has advanced to a considerable extent that we are having great number of choices for selection and adoption in information work.

4 INFORMATION ACTIVITIES IN INDIA

Information is today a vital resource and an essential ingredient in decision making. The scientific and technological progress in India has been quite rapid in comparison to the other developing countries. It is now essential for India to process new scientific knowledge rapidly and comprehensively. During the past few decades India has been trying to accelerate its information activities and new information centres are being set up in different areas of science and technology. The implementation of the NISSAT (National Information System for Science and Technology) programme reveals the degree of Government's awareness in this direction. Through this national system there are efforts to develop, coordinate and inter-link the different information centres in the country.

4.1 Towards Information Network

Our science and technology planners are aware of the information network and its importance in the handling of information. We do hope that in future India will have a system of information network. In Europe, there is European Information Network revealing the concerted effort of bringing resources together for and to the user, which has resulted in Europe's having more records available on-line. On similar lines the information scientist in India do conceive of Indo-net. Developing an effective national information network for organising knowledge within a country like India is a responsibility jointly shared by the government policy makers and information scientist.

4.2 Requisites and Constraints

The policy makers set fourth the goals and objective. The information scientists on the other hand bring to light the tools and techniques of new information technology including computer, communication and micrographics to help the policy makers implement the requisite information systems and networks. According to Redmond the conditions which must exist in order that a network can be constructed and operated are : (i) Comparability, (ii) Coordination, (iii) Centrality, (iv) Collegiability, (v) Compatibility, and (vi) Consortia and Compensation.[2]

In the light of the above condition let us see to what extent these can be met out in the Indian environment. This can be analysed more suitably if we try to examine the constraints to developments of information activities in India. India is a developing country and the problems faced by the developing countries are more or less common. Some of the problems/ constraints are :

(i) Inadequate and slow postal and telegraph services;
(ii) Insufficient communication between those who hold information and those who need it;
(iii) Lack of telecommunication facilities;
(iv) Limited or no exchange of data among the developing countries; and
(v) Lack of awareness, initiative and interest.

4.3 Planning for Information Infra-structure

Planning is necessary for systematic development. In planning for the information infra-structure, it would be helpful to take into consideration the following factors :

(*a*) National development plan objectives and the objectives and function of the information networks;

(*b*) Component units and their resources;
(*c*) The functional organisation of the component into a coherent whole;
(*d*) The present and future resource requirements; and
(*e*) The growth and development of information systems and networks in future.[3]

The growing awareness that information is not only a national resource vital for scientific and economic progress, but also the medium of social communication is leading India to plan systematically its national information system to ensure through coordination of the various individual elements, maximum use of the available information resource and facilities.

4.4 National Information Policy for India

India is a vast and a developing country. In ascertaining the national information infrastructure, we have to consider the key factors which affect the planning. The nation's future capability to handle information will depend on how well it is able to integrate the new technological methods and devices into the main-stream of its information activities. A systematic development of information resources in India will be possible only when it is serious to implement the introduction of information technology in accordance with the national plan. Technology is complex and hence the evolution of a national information plan must be synchronised with the technical education of the people who will operate it. Planning helps the policy maker to anticipate some aspects of the future, to consider and weigh alternative courses of action.

The three issues to be considered before the planning of the information infra-structure at the national level are :

(i) What type of material and subject will it embrace, which new institution within the country will it affect, what new organisation will it require and so forth;
(ii) How much manpower and money must the government allocate to accomplish its objectives and what will be its objectives; and
(iii) How the information technology be applied and where?[4]

4.5 Role of Information Technology and Infrastructure Planning

The planning relating to national information infra-structure should consider and reconsider the value of information technology and make it a major issue in the development of information infra-structure. The planning should stress the application of information technology. It

should give priority-attention to development of communication system. It should ensure that planner heavily rely on international technical standards.

The successful implementation of information technology into a national infra-structure makes it obligatory on the part of the government to set out its policy which include :

(i) The announcement of the relationship of information technology to national information programmes goals, objectives and priorities;
(ii) Establishing units at the national level responsible for planning, executing and implementing information technology objectives;
(iii) Coordinating national plans for information technology within and outside the country; and
(iv) Providing adequate and continuing financial support.

5. CONCLUSION

The Government of India is still in the way of announcing its information policy. Above are some of the factors to be considered for the planning and framing of the policy. We the librarians and information scientists should come forward in ascertaining the future of information activities in India based on the use and effectiveness of the information technology in information work.

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INFORMATION TECHNOLOGY: ITS IMPACT AND POLICY IMPLICATIONS

P S G KUMAR

1 DEVELOPMENTS IN INFORMATION TECHNOLOGY

The new technologies have made tremendous impact on storage, retrieval and dissemination of information. The technologies that are having a sway over information activities together constitute the 'information technology'. These comprehend mostly :

1 Computer technology;
2 Telecommunication technology; and
3 Repro and micrographic technologies.

India has made great strides in the field of the new 'information technology'. Some of these important developments are discussed in the following paragraphs.

1.1 COMPUTER TECHNOLOGY

1.1.1 *Growth*

The first computer system to come to India was the HEC-II computer brought by the Indian Statistical Institute in 1956. The IIT, Kanpur and the TIFR, Bombay established computer centres during 1963-64. Since then computers started appearing in a big way on the Indian scene. Their number has been steadily increasing from time to time.

Year	*Approx Number of Computer Installations*
1970	120
1975	300
1980	500
1984	1,300

1.1.2 *Computer Industry in India*

The Electronics Commission, which was established in 1971, recommended that 'India should aim for self-sufficiency in the production of computers-hardware and software'. The Electronics Corporarion of India Limited (ECIL) as a step in this direction developed the TDC-12 minicomputer at BARC in 1973. Later on, two modified versions TDC-312 and TDC-316 were produced. The EC-48 of ECIL costs Rs 60,000 only[1,2].

Apart from ECIL, today DCM, HCL, NELCO, ORC, UPTRON, WIPRO, ZENETH, UMICRO and a host of indigenous firms have started manufacturing various kinds of computers. In addition the International Computers Indian Manufacturers (ICIM), Pune is producing ICL 1901A mini-computers. The Computronics India, New Delhi is marketing EC-1033 (of socialist countries) on rupee payment. The Hindustan Computers Ltd (HCL) in collaboration with the Singapore Government Electronics Development Board (EDB) established the Far-East Computers Ltd (FECL) to manufacture a range of computers to be marketed in 14 countries in South East Asia and the Middle East.

1.1.3 *Role of the Government*

The Electronics Commission has established the following organizations for an all-round development of computer technology in India :

1. Information Planning and Analysis Group (IPAG);
2. Computer Maintenance Corporation (CMC);
3. National Informatics Centre (NIC); and
4. National Centre for Software Development and Computing Techniques (NCSDCT).

1.1.4 *Software Capabilities*

In the field of software, the country is making steady progress. It is estimated that there are about 100 software development groups in India which in addition to meeting our local needs are exporting software to USA, USSR, Australia, Spain, etc and earning to the tune of Rs 30,00,000 per annum.

It is said that more than hundred thousand Indians are working abroad as system specialists, programmers, etc in the computer industry. But in India, we have less than ten percent of our requirement of computer professionals. We can increase our software export to one billion dollars a year by increasing the number and quality of computer personnel.[3]

1.1.5 *Major Computer Applications*

Following are some of the major computer applications in India :

1	Air India (Reservations)	— 1979
2	Polling	— 1980
3	Inventory Control of Army Ordnance Corps (AOC)	— 1980
4	Computer Aided Instruction	— 1981
5	Passport Offices	— 1984

1.2 Communication Technology

The telephone came to India in 1882. In this year telephone exchanges were established in Bombay, Calcutta and Madras. In order to provide long distance communication various exchanges were linked. Electronic repeaters were introduced in 1920. Trunk dialing system came into existance during second World War. By 1980 India had :

Telephones	24,77,000
Wirelines	3,20,000 kms
Co-axial cables	18,000

1.2.1. *Allocation of Funds*

Rs 60 crores were allocated to telecommunications in the First Five Year Plan, whereas it was increased to Rs 3,000 crores[4] during Sixth Five Year Plan.

1.2.2. *VHF Phones*

Indian Telephone Industry (ITI) has started producing VHF (= Very High Frequency) telephones in 1982. With these radio-phones, around 40 villages could be provided telephone facility by radiogrids.[5]

1.2.3 *Satellite Technology*

India has developed sufficient technological capabilities to plan, design, build and test satellites. Following is an impressive list of India's achievements in this field :

S No	Project		Launched on
1	Aryabhata	—	1975
2	Bhaskara I	—	1979
3	Rohini I	—	1980
4	Bhaskara II	—	1981
5	APPLE	—	1981
6	INSAT-1A	—	1982
7	INSAT-1B	—	1983

1.2.4 *INSAT-1B*

The INSAT (= Indian National Satellite)—1B launched in 1983 is a success and it is being fully exploited for telecommunication, television and meteorology. The P and T department has establshed 31 earth stations for providing nation-wide network.

1.2.5 *Things in the Offing*

Rapid growth of cable television will have important consequence by bringing a range of electronic service to each TV set. It will improve local reception, cable multiplies the number of channels available to a receiver. Even the cable systems may be bypassed in part by direct satellite--to-home broadcast, which will make independent access to multiple channels available on a subscription basis. In Japan, Great Britain, France, and Canada the home television set is already being used as a terminal to display text from central databases cassed up by telephone or direct key-board enquiries.[6] India has also developed an indigenous system which will provide such a facility in the near future.

1.3 Micro and Reprographics

1.3.1 *The International Scene*

Among the new technologies micrography is the first one which made an impact on library management. Libraries started using microfilming in 1930 to preserve rare and other deteriorating materials. With the fast growing collections in libraries, the microfilming technique was adopted as a storing devide to economise the space in the libraries. With the increase in the cost of production and transportation microforms gained importance as one of the physical forms of the documents. The 16 mm or 35 mm roll films and the 105 × 148 mm microfiche are the dominent microforms that are in use. The reduction ratio has gone up steadily. A micro-

fiche is generally having 98 frames. But, today there are devices whereby we can accommodate as many as 13,000 pages on a single microfiche. Revolutionary development in the field is the application of computers and laser beams for recording information on microfilms. In Computer Output Microfilms (COM) the data produced by recorder from computer generated electric signals are converted into human readable languages and printed on microfilms. Now a days almost 30 percent of the scientific journals are available in microform.[7]

1.3.2 *The Indian Scenario*

Unfortunately in India, this technology has not gained firm ground. Very few institutions are having microfilming equipment and documents in microform. There is every need that the 'microform culture' is to be developed in our libraries. The microfilming and reader equipment should be manufactured indigenously at a cheaper rate.

1.3.3 *Reprography*

Reprographic equipment found place in our libraries in 1970s. Many institutions now possess photocopying equipment. These equipments play an important role in the transmission of information.

2 IMPACT ON INFORMATION ACTIVITIES

2.1 Systems and Programmes

2.1.1 *India and the UNISIST*

The idea of establishing a 'World System of Scientific Information' which later on became UNISIST was first mooted on the Indian soil. At the Eleventh General Conference of the International Council of Scientific Unions (ICSU) held in Bombay in January 1966, such a proposal was considered, which ultimated resulted in the formation of UNISIST. India has been actively participating in UNISIST programmes right from the beginning.

2.1.2 *NISSAT*

Realising the urgency of a strong national information system, India made an appeal to Unesco for a short term mission of a consultant to advise the Insdoc in these matters. Accordingly, Unesco had deputed Dr Peter Lazar during 1972 which on a thorough study recommended for the establishment of National Information System for Science and Technology (NISSAT).

2.1.3 *Structure of NISSAT*

The NISSAT is advised and guided by the Advisory Committee; Executive Committee; and Adhoc Working Groups and Expert Groups. The NISSAT network comprises of 1 Sectoral System with Sectoral Information Centres; Local Informatino Units; 2 Regional System with Regional Centres; and 3 Specialised services.[8]

2.1.4 *Information Services*

There has been a rapid proliferation of the information systems and programmes. Though most of these are international in many respects, now there is a considerable amount of decentralization of efforts and activities. India is inputting to the international systems like INIS (by BARC) and AGRIS (by ICAR). Since 1975 Insdoc has been providing computerized SDI service to various scientists and technologists all over the country. The University Grants Commission (UGC) has planned for a Science Information Centre at Indian Institute of Science, Bangalore covering physical, mathematical, chemical, biological and earth sciences. The objective is to provide on a regular basis computer produced abstracts of latest articles covered by major world wide tape services.

2.1.5 *Indigenous Systems*

In India about 37 libraries and information centres have developed 82 indigenous computerized systems of inhouse library operations and information programmes. An abstract of these systems is given below :

Library Automation Programmes in India

S No	*Operation*	*No of Institutions*
1	Serial control	12
2	Indexing	11
3	Book ordering	6
4	Circulation	6
5	Cataloguing	4
6	Stock taking	2
7	Classification	1

S No	Operation	No of Institutions
1	SDI	14
2	CAS	9
3	Retrospective search	7
4	Others	10

2.2 On-line Systems

2.2.1 *RECON-ONLINE Demonstration*

For the first time in Asia, an online interactive computer demonstration of the ESRIN/RECON database system at Frascati, Italy was arranged at the Tata Institute of Fundamental Research (TIFR), Bombay from 20 to 25 September 1976. It was done with the financial support of Unesco. The users could communicate with the database being searched by using an interactive terminal.

2.2.2 *TIFR, Bombay*

The TIFR, Bombay developed a fully computerized online interactive CAS, SDI cum retrospective search system using the DEC-10 computer with an interactive terminal. Initially bibliographic data on 'Drosophila' a genus of fruit flies was stored.

The BHEL, Hyderabad and IDL Chemicals Ltd, Hyderabad have also developed online, interactive information systems.

2.2.3 *NICNET*

The National Information Centre (NIC) build-up an intra-city computer network (NICNET) in Delhi by connecting 20 minicomputer terminals using VHF radio-phones. This network facilitated the online information transfer within the city of Delhi.[9]

2.2.4 *Use of APPLE Satellite*

APPLE (= Ariane Passenger Payload Experiment), India's first experimental communications satellite was orbited in 1981. The NIC has successfully conducted the Delhi-Ahmedabad satellite data communication experiment using APPLE. Large earth stations created at Delhi, Ahmedabad and Madras were used for computer interconnect experiments through APPLE.

2.2.5 *INDONET*

The Computer Maintenance Corporation (CMC) has an ambitious project in the area of communication—the INDONET, which envisages the establishment of a grid of computer centres with adequate inter-communication facilities and sophisticated hardware for advanced data processing.[10]

2.2.6 *Facsimile Transmission*

Attempts are also being made for telecopying. An experiment was conducted in 1980 on passing document over the telephone wire employing narrowband facsimile technique. Facsimile transreceivers developed under a Technology Development Council's project has undergone field trials successfully in 1981. Two Indian dailies including *The Hindu* of Madras, are now being produced and disseminated electronically using facsimile transmission system. India is also planning to use the satellite and optical fibre system for facsimile transmission.

2.2.7 *Teleconference*

Newsmen in three distant cities participated in the first teleconference held in the country on 12 August 1982 through APPLE. This was held to mark the second anniversary of the APPLE's utilization programme organised by the Space Application Centre. About 150 persons participated in the telesymposium including students of the IIT, Delhi, Kanpur, Bombay and Madras; IISc, Bangalore; LD College, Ahmedabad; and trainees of the advanced level telecommunications training course at Ghaziabad (UP).[11] The newsmen's questions were answered from Ahmedabad, Delhi and Bangalore by the various officials of the ISRO.

2.2.8 *Machine Translation*

The Prime Minister late Mrs Indira Gandhi disclosed in the Lok Sabha on 16 March 1980 that some Indian scientists are working on evolving a methodology for machine translation from one language to another using the existing computers and pre-editing procedures.[12]

2.2.9 *Teletext*

The Teletext system in UK provides a vide variety of information from film programmes, reviews, music, information about theatre, food, prices, receipes, science news, financial news, police news, special information on education, etc. On 16 March 1984 the P and T Department in India came-out with an indigenous system on the lines of Teletext which will be put to commercial use in few metropolitan cities (Doordarshan).

2.2.10 *National Centre for Telematics, New Delhi*

In the 'Doordarshan' news telecast on 26 April 1984, it was announced that the Government of India will shortly establish a National Centre for Telematics in New Delhi which will initiate, videotext, telemain transmission in the country.

3 FOR CONSIDERATION OF POLICY MAKERS

It is essential that the Government of India should formulate a National Information Policy. "An appropriate legal framework should be created before digital technology is introduced for use by the general public. Apart from maintaining the public telecommunication monopolies and the separation between information transmission and information content the following elements will be of major importance :

—absence of censorship;
—guarantee of individual and social privacy;
—freedom of information legislation concerning information held by public agencies, archives, etc;
—national legislation concerning copyright and other proprietory rights favouring for instance, non-commercial group communication, vis-a-vis transnational information programme oligopolies;
—regulations on issues such as general availability, reliability, accuracy,completeness and transparency of information;
—Special regulations on commercial sponsorship of information services dealing with aspects like undisclosed mixing of objective information and commercial promotion.

Comprehensive analysis of such strategic elements of a policy for digital communication should be carried out at the earliest stage possible. Further, appropriate institutional measures should be taken, if possible, well in advance of full-scale introduction of digital communication technology. This would significantly increase the prospects of digital information communication.[13]

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NATIONAL INFORMATION POLICY FOR THE DEVELOPMENT OF DATA BASES IN A WELFARE STATE LIKE INDIA

BAMAN PARIDA

GENESIS OF MASS INFORMATION

The emergence and development of means of communication is one of the most fascinating events in the history of mankind. The beginning was unbelievably difficult and slow. For many thousand years, people only communicated with one another within the confines of small groups and had no means of transmitting and storing information. For another several thousand years writing, literacy and the obtaining of information were the privilege of an extremely narrow section of society. Mass information began to take shape only in the 19th century and in the 20th century its rate of growth has gone high and it has led to information or communication explosion.

According to Alvin Toffler, the American sociologist, the rate of technological progress in the communication sphere are notable as follows :

(*a*) Only the last 70 generations of people have known writing languages;

(*b*) only during the life time of the last six generations the masses have become familiar with the printed world;

(*c*) only during the life time of the last four generations people have learned to measure time more or less accurately;

(*d*) only the last two generations have used electricity, and only the present generation has easy access to such mass information media like radio, television, computers, etc. Sometimes the same data are presented in the following form: human speech emerged 5,00,000 years ago, writing, 5,000 to 6,000 years ago; the printing press was invented only 500 years ago; telegraph, 140 years ago; telephone a little over 100 years ago; radio was invented about 80 years ago;

mass television appeared approximately 35 years ago; computers 25 years ago and the first communications satellites were launched about 15 years ago.

Thus we can easily guess that the rapid scientific and technological progress in the mass communication sphere is the most important factor in the development of human society. Marshall MacLuhan has devided the history of mankind into the three broad era such as the era of written languages; era of printing press and the era of electrical civilization.

In the recent years electronic inventions have revolutionised the faster means of transmitting information and effective and efficient data dissemination.

2 INFORMATION SYSTEM AND DATA CONCEPT

According to Bedford, "Information is data that has been processed into a form that is meaningful to the recipient and is of real or perceived value in current on prospective decisions." Information refers to raw data, organized data, the capacity of a communication channel etc. The relation of data to information is defined as that of raw material to finished product. In other words the information processing system processes data into information.[1] Data play a very important role in an information system. Data constitute the reliable essense of scientific knowledge and form a permanent part of scientific information. Data have immense value if these can be retrieved, processed and presented to the user in time. An information system envisions the availability of a comprehensive set of stored data to provide information for supporting operations, management and decisions making of an organisation. Also the progress and growth of scientific knowledge depend on the systematic accumulation and evaluation of all data generated. Therefore, data must be organised in proper order for utilising them productively.

3 DATA PROCESSING SYSTEM

An information system is composed of five basic components. In a manual system those basic functions of information system are performed by human beings and in a computer based system those functions are carried out by the machine. However, in both the systems the basic functions are as follows:

(*a*) entering data into system;
(*b*) processing the data (rearranging input data and processing files.);
(*c*) maintaining files and records;
(*d*) developing procedures that tell what data are needed and when,

where they are obtained and how they are used, as well as providing instruction routines for the processor to follow; and preparing report output.

Both manual and computer-based information systems have the elements and attributes of systems in general and can be described in terms of these elements input, output and processor.

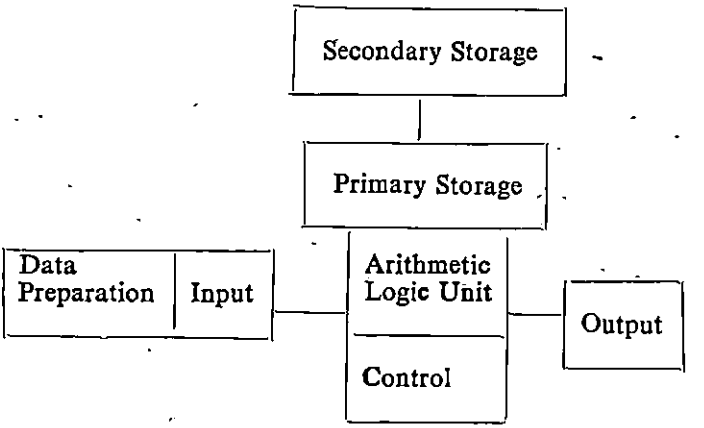
3.1 Hardware

Hardware for computer data processing consists of equipment which performs some functions like data preparation, input to the computer, computation, control and primary (central processing unit) storage, secondary storage and output from the computer. The equipment connected directly to the computer is known as '*on-line*' and equipment which is used separately and not connected is known as '*off-line*'.

3.2 Software

It consists of computer programs and routines which direct or facilitate the operation of the computer and can be devided into system software and application programs.

The basic functions in a computer system are indicated in the following diagram:



Central Processing

4 DATA ORGANISATION

There are four important levels of data organisation such as: data items, data records, data files and data bases.

A data item indicates different attributes of an object of data processing. Data items which relate to an object of data processing are combined into a record for that object. If the object of processing is the borrower of a library items such as—borrower number, name, address, number of books taken, due date, etc form the record for the borrower. A collection of related records is called a file or a data set. Files are prepared when the need for a particular collections of records is recognised. This may need obtaining new data from source documents or it may require a selection of records from existing files and restructuring them into a new file. The preparation and maintenance of files is a main factor in the workload of a computer information processing system.

Data files are organised to provide a means for locating records for processing, selection or extraction and to facilitate file preparation and maintenance.

5 DATA BASE CONCEPT

The term data base has been defined in different ways by several authors. According to Gordon B Davis "A data base is a set of logically related files organised in such a way that access to the data is improved and redundancy is minimized. There can be several data bases to reflect several logical groupings of files. The data base concept is made operational by a data base management system, a software system which performs the functions of creating and updating files, retrieving data, and generating reports". Data base is a collection of files brought together as a single file commodity accessible by a given set of programmes. In computer science literature the term data base apply only to on-line information retrieval services.

A true data base is a data storage and retrieval system which is efficient, rapid, capable of managing more data sets than conceivable for its application and performs on an integrated non-redundant basis. The data base may be sub-divided into various levels as follows[8] :

Data base—aggregate of files to meet MIS requirements.

File—related records or blocks.

Block—two or more records retained in a particular storage medium such as a file cabinet or computer tape.

Record—a collection of data elements related to a common identifier such as a person, machine, place, or operation.

Group—two or more data elements which are logically related and must appear together to form a complete unit of meaning (Street number and name, first and last name of a person).

Date element—sometimes called words, fields, or data items, is the lowest level of the data structure and the only one with which a specific value may be associated.

6 TYPES OF DATA BASES

6.1 Bibliographic Data Bases

These data bases contain descriptive bibliographic references about documents like books, periodicals, news papers, reports, patents or theses. The information typically included in such data bases are as follows :

(*a*) document number; (*b*) title; (*c*) author; (*d*) source reference; (*e*) abstract; (*f*) full text; (*g*) indexing words or phases; (*h*) citations or number of references; (*i*) organisation from which the document is originating; and (*j*) language in which the document is written.

Generally most of the bibliographic data bases cover information or data from abstracting and indexing periodicals and such data bases meet the requirements of the users relating to specific subject. Some bibliographic data bases correspond to specific printed services as mentioned below:

Data Base		*Printed Version*
MEDLARS	—	Index Medicus
INSPEC	—	Science Abstracts
APTIC	—	Air Pollution
C A SEARCH C A BIBLIO	—	Chemical Abstracts
SCI SEARCH	—	Science Citation Index
ERIC	—	Resources in Education
COMPENDEX	—	Computerized Engineering Index
MEDATEX	—	Medical Abstracts
BIOSIS	—	Biological Abstracts
WRA	—	Water Resources Abstracts
PNI	—	Pharmaceutical News Index

Bibliographic data bases can be classified into different broad categories such as :

1 Subject oriented data bases connected by a common format and retrieval language corresponding to very important and large abstracting journal, like—Chemical Abstracts, published by American Chemical Society;
2 Inter disciplinary data bases, like—SCI SEARCH;
3 Cross disciplinary data bases, like—METADEX;
4 Specialized data bases serving particular technology like WRA—(Water resources Abstracts), PNI—(Pharmaceutical New Index), RAPRA Abstracts etc;
5 Data bases covering specific types of publications such as dissertations abstracts, MARC II (Monographs) GRA (Government Reports Announcements).
6 Data bases created by the co-operative efforts of the international organisations like INIS; AGRIS for rendering repackaged information services on new smaller packages at lower prices that an individual can afford. Such as—HEEP (selects references from BA and Index Medicus).

6.2 Bibliographic Data Bases and Online Retrieval Services

Online computer-based information services provide access to hundreds of data bases containing both bibliographic and primary source of information. The bibliographic data bases online can cover any subject field and record innumerable references to periodicals articles, technical reports, patents, books, seminar or conference papers, annual reports, trade publications, news paper and magazine articles, standards and specifications, parliamentary or legislative proceedings, government documents, theses and dissertations, abstracts and bibliographies, etc. Similarly non-bibliographic data bases online contain source data such as economic and financial time series, corporate earnings, chemical properties, hand books, news articles, laws, survey data, and statistics. These two categories of data bases can be updated monthly, biweekly, weekly or in some cases daily.

However, online information retrieval services, both bibliographic and nonbibliographic, are computerized information sources which can be searched in an interactive conversational mode from a remote computer terminal, even sometimes thousands of miles from the host computer. A user can get his required information or data from the data bases online sitting at the computer terminal which is connected with the host computer by a telephone and telecommunication network. Online data services are provided by both commercial companies and also government agencies in developed countries.

The bibliographic data base producer (1) acquires documents like periodicals articles, research project summaries, reports, conference proceedings books etc; (2) prepares catalogues, indexes and sometimes abstracts of the

documents; (3) creates a record or representation of each document containing citation information and index terms and abstracts (sometimes) in computer-readable form (or magnetic tapes); (4) uses magnetic tapes to produce printed products and provide input to the on-line services.

The online service vendor processes tapes into system format and creates data bases consisting of three working files such as :

(*a*) inverted alphabetical index file of directly searchable terms;
(*b*) postings file linking search terms with unit records; and
(*c*) print file containing unit records, bibliographic citations and abstracts and other data.

6.3 Machine Readable Data Bases

Data which can be read and understood by a computer is termed as machine-readable data. Such type of data can easily be explained by the help of a digital computer. A digital computer is simply an electronic machine consisting of millions of tiny electrical switches. Any data that can be put into digital form by computer programs may be called as machine readable data.

Machine-readable data bases are defined in *Directory of Online Data Bases* as collections of related texual and or numeric data in machine readable form that are processed for computerized publishing and/or electronic dissemination. Ryan E however has described that the data bases searched in online services begin life as photocomposition, tapes used to publish printed information sources such as abstract and index journals, directories, handbooks and other publications. The computer is used to compile and phototypeset copy for printing and the resulting tapes to machine readable information comprise the data base.[4]

Machine-readable data are stored in different ways such as : IBM-type punched cards, punched paper tapes, magnetic tape, magnetic drums, magnetic discs and in the magnetic core of the computers central processing unit. Generally magnetic tapes and discs are used for the data storage. Data bases arrive from suppliers on magnetic tapes. The data on the magnetic tapes are reprogrammed by the online service vendor and ares tored on the magnetic dises for interactive retrieval. Standard design specifications have developed for conversion programs to transfer information from the supplier's magnetic tapes into magnetic discs in the prescribed retrieval system format.

For machine readable, data bases magnetic discs are more suitable than tapes because of their good interactive use or random access quality.

Before the development of online interactive retrieval system machine-readable data bases had to be searched through a process known as batch process or batch retrieval. In this process several requests for information

are searched in a 'batch' at the same time during one pass of the data base tapes. Batch searching is not interactive rather the search results can be modified on reprocessed repeatedly before the desired information retrieved. Batch-searching is made on data base tapes rather than on discs. The National Library of Medicine had adopted the batch searching methods for MEDLARS towards 1960s.

6.4 Other Types of Data Bases

J Wanger and R N Landau have suggested in the *Journal of American Society for information science* (v. 31/3) 1980, the following kinds of data bases :

1 *References Data Bases* : Which include reference or secondary information that identifies various primary information sources. These data bases are either bibliographic or directory in nature :

   (*a*) *Bibliographic Data Basses* : Which include bibliographic references of citations, with or without abstracts.

   (*b*) *Directory Data Bases* : Which include references, with or without abstracts or summaries relating to people, organisations, grants, research projects, etc.

2 *Source Data Bases* : Which include complete information (primary data) and the user need not go to another source to get the complete reply to an enquiry. Basically there are three types of source data, such as : numeric, full-text and dictionary. Also sometimes source data may contain both numeric and texual information.

   (*a*) *Numeric Data Bases* : Which include statistical or other numeric data and also some cases textual data.

   (*b*) *Full-text Data Bases* : Which include the complete text of a document such as a court decision, a law in a newspaper or magazine article and also some cases numeric data.

   (*c*) *Dictionary Data Bases* : Which include handbook or dictionary information such as definitions, chemical nomenclature, physical properties, etc.

It is noticed that the bibliographic data bases online were made available commercially in mid 1980. Also the number of non-bibliographic data bases has increased rapidly. The Directory of Online Data Bases published in 1978 contains the names of commercially available online data bases.

7 DEVELOPMENT OF DATA BASES OF MANAGEMENT INFORMATION SYSTEM

Information plays an essential part in the management system. A system is a set of elements, such as people, things and concepts, which are related to achieve a mutual goal. The management information system is the means for connecting the managed operating systems by exchange of information. Its main objectives are to provide information for decision-making on planning, organising and controlling, important activities of the organisation. Information consists of classified and interpreted data that are being used for decision-making. Thus the management Information System (MIS) has been defined as "A group of people, a set of manuals, and data processing equipment (a set of elements) select, store, process, and retrieve data (operate on data and matter) to reduce the uncertainty in decision-making (seek a common goal) by yielding information for managers at the time they can most efficiently use it".[5]

The data base of MIS consists of data that will be utilized in programmed decision making and time saving. Such data base is derived from the needs of management for information to guide the total business system. A systematic approach to the development of the data base of MIS is suggested by Murdick and Ross as follows :

(*a*) To identify all points on the flowcharts that require data inputs;
(*b*) to prepare a data or file worksheet for each data element, giving source of data, length and form, current and potential frequency of updating, retention, schedule for the data, and end use of the data;
(*c*) to group all data worksheets by system and check for omissions;
(*d*) to group all data worksheets by activity and by organisational component and note duplications;
(*e*) to eleminate duplicated data requirements, to develop an integrated data base;
(*f*) to evaluate the items in the master file for frequency of need and value of the data to the system versus cost of obtaining the data.

8 IMPORTANT DATA BASES OF THE WORLD

Important data bases offering information in different subject fields are mentioned below :

8.1 CHEMISTRY

1 Chemical Abstracts Service (CAS) by American Chemical Society, 2 Chemical Abstracts Search (CAS), 3 CHEMODEX, 4 CHEMNAME.

5 CHEMSEARCH, 6 CHEMLINE, 7 CRDS (Chemical Reaction Documentation Service), 8 PAPER CHEM (Institute of Paper Chemistry), 9 RAPRA—(Rubber and Plastics Research Association).

8.2 Biology, Medicine and Toxicology

1 MEDLAR, 2 MEDLINE, 3 BIOSIS (Biosciences Information Service), 4 EXCERPTA MEDICA (Drug and Pharmacological Literature). 5 SCI Search (Science Citation Index), 6 MEDOC (BRS) produced by the Eccles Health Sciences Library of the University of Utal, U.S.A. 7 TOXINE (human poisoning, toxicology, agrochemistry, food stuffs, veterinary medicine and pesticides).

8.3 Leading Vendors of Data Bases

The two largest commercial online service vendors : DIALOG Information Retrieval Service and SDC Search Service, were sponsored and financed by the US Government in order to convert bibliographic data to machine-readable form in mid 1960s. DIALOG—Information Retrieval Service is division of the Lockheed Missiles and Space Company of Palo Alto and it was created in 1963 to investigate automated methods for handling the explosion of scientific and technical information. It came to operation in 1966 when Lockheed made a contract to design, program and implement a computerized system to support the bibliographic publications of the National Aeronautics and Space Administration (NASA). Thus a remote console online retrieval system was developed known as 'NASARECON' covering International Aerospace Abstracts, Scientific and Technical Aerospace Reports and other NASA Document files. Then after US Atomic Energy Commission (AEC). The European Space Agency (ESA), the US Office of Education and the National Technical Information Service established contracts with the Lockheed Company, as a result DOE RECON (AEC) and IRS (ESA) RECON Online Services were evolved. Thus DIALOG started its retrieval services on commercial basis since 1972 in the name of RECON, with three data bases and in 1980 it had more than 100 data bases.

8.4 SDC Search Service

This is a division of the System Development Corporation situated in Santa Monica. It owes its origin to Rand Corporation which was created by the US Air Force after Second World War. It started its online services in 1963, only after receiving a contract from the US Department of Defence and Advance Research Projects Agency (ARPA) and it acted as a non-profit organisation. In 1968 it started its retrieval services on com-

mercial basis and performed a study for the National Library of Medicine on the requirements for an online retrieval system to support the publication of its Index Medicus.

Then the SDC started MEDLINE Service in 1972 using its retrieval system language. Also the SDC has its Online Retrieval of Bibliographic Information and Text (ORBIT) software service. SDC Search Service began its commercial operation in 1973 with the CHEMCON, ERIC and MEDLINE data bases.

Bibliographic Retrieval Services (BRS) Incorporation is a commercial online services-concern. It offers MEDLINE data base service at the base price of fifteen dollar per hour. It started its online service marketing since 1976 and in 1980 it offered 30 data bases. It has its own IBM 370 computer. Its service prices are comparatively lower than DIALOG or SDC and thus it has gained popularity among academic libraries. It also deals with INSPEC, POLLUTION ABS, PSYCHOLOGICAL ABS (American Psychological Association), and some other data bases.

8.5 UNESCO Projects and Data Bases

Within the frame work of General Information Programme (GIP) Unesco has undertaken many activities designed to identify the suppliers and information sources for information handling technology like hardware and software and to lay the basis for expanding programme to assist different member countries in the choice, aquisition and use of technology in the establishment of local data bases.

With a view to help the developing countries to create local data bases and to access international information sources through the use of information technology, a Unesco pilot project was started in 1983 to evaluate the feasibility of employing a portable micro-computer-based software package in information and documentation work.

UNISIST Recommendations II on International Serials Data System addressed to the member States of UNESCO reads as follows: "To set up national and regional data and information analysis centres for the purpose of collecting, evaluating, processing and making effective use of foreign and domestic data in the field of science and technology, facilitate interaction among information specialists, the scientific and technical communities, all industrial and agricultural sectors, development specialist and planner in order to apply information in meeting national needs assign high priority to the training programme of information users".

8.6 National Information Policy of India for Creation of Data Bases

Information is considered as a basic resource for the national develop-

ment. Ours is a welfare state with a secular democratic republic. Our national policy is obviously governed by the goals of social and economic policy prescribed in the Directive Principles of our Constitution and it should be harmonious with our other national policies formulated at various stages of our national development plan. Hence our National Information Policy should provide for fostering, promoting, supporting and sustaining by all appropriate means, all information activities in the country and developing the information infrastructure around the existing institutions like libraries, documentation and information centres, and also creating the other components like information analysis centres, data bases, data banks, referral centres in order to form a total national information system. Of course our national information policy is framed on the basis of the Scientific Policy Resolution of 1958 which was designed to encourage individual initiative for aquisition and dissemination of knowledge and for the discovery of new knowledge and to secure for the people of the country all the benefits that can accrue from aquisition and application of scientific knowledge.

Thus our national information policy is a set of decisions taken by our government through appropriate laws and regulations to orient the harmonious development of information transfer activities in order to fulfil the information needs of the country. In this connection the resolution made by the Inter-governmental Conference on Scientific and Technological Information for Development (UNISIST II) held at Paris in June, 1979, laying emphasis on the aims of a national information policy, is worth mentioning.

9 DEVELOPMENT OF DATA BASES IN INDIA

Now a days the development of computerised data bases and on-line access to these data bases have helped faster dissemination of data and in data storage and retrieval system. Computerised data bases have already been set up, especially in industrialized countries which give users almost instant access to large propention of current scientific and technological knowledge by means of on-line communication technology. In India some of the foreign data bases have already been started functioning with the collaboration of different national bodies. It is experienced that the foreign data bases are very costly when they are imported in India. Therefore, our national policy should be framed keeping in view that the benefit from such data bases should be shared in national interest.

India has already participated in a number of international systems like INIS, AGRIS etc. Through such participation comprehensive data bases are getting in to India and as a result they are providing the national input to the system. This is a good way of acquiring, valuable data bases and as a matter of national policy India should participate more and

more different international systems. Moreover, there is a need for a clear-cut policy in the matter of providing data base services to the information users of our country.

The National Information System (*NATIS*) promoted by Unesco and accepted by the 1974 Inter-Governmental Conference on the planning of National Documentation, Library and Archives Infrastructures, comprises all agencies, resources, processes and activities involved in the transfer of information or data within a country. Accordingly, the Government of India, Department of Science and Technology has already started National Information System in Science and Technology (NISSAT) and four Sectoral Centres—Leather, Drugs and Pharmaceuticals, Food Technology and Machine Tools since 1977. It is one of the objectives of NISSAT to establish and maintain data bases for scientific, techno-economic, industrial, agriculture, population etc. information and to promote the progressive use of the computer for information handling and library routines and to introduce on-line information retrieval systems whenever feasible. There are at present about 1,000 computer installations in various research and development organisations, industries, government departments who utilize the inhouse computers for storage and retrieval of some information activities. For example centres like Bhaba Atomic Research Centre, Tata Institute of Fundamental Research, Indian Institute of Technology Libraries, Indian Science Institute Library, Indian Standard Institute Library, Indian Statistical Institute Library, Indian Space Research Organisation Library, etc. have the access to 2nd generation computers.[6]

The NISSAT Co-ordinating Group supported a project at the National Aeronautics Laboratory (NAL) for undertaking the design of a microprocessor based information handling system and accordingly in 1981 they tried to retrieve information from the data bases of the European Space Agency Information Retrieval Services through EURONET. Similarly an experimental project was organised under the NISSAT at the Tata Institute of Fundamental Research (TFIR), Bombay during November, 1976 in order to demonstrate the feasibility of accessing NASA data bases via satellite communication channels from a remote location. Some 7.5 million references on science and technology were made available for direct search through display terminals. Seven hundred scientists participated in it and could interrogate the data base at Frascati and get almost instantaneously the results of the search displayed on a video screen and could also get hard-copy print-outs. Since the cost of communication channels on the international circuits is prohibitive, other measures of seeking recourse to such data bases were being explored by the NISSAT Coordinating Group from time to time. One such attempt which has culminated in an experimental project relates to use of one of the SPS terminals in Paris for meeting the needs of the India Scientific and Technological Community.

Based on an agreement arrived at with the ESA, the Technical Liaison Officer of the Indian Space Research Organisation (ISRO) in Paris had been permitted to conduct the current and retrospective searches of information required by Indian Aerospace Organisations on an experimental basis for a period of six months.

The modus operandi for accessing the (Space Documentation Service) SDS databases was as follows :

> The National Aeronautics Laboratory at Bangalore on receipt of querries from different Aerospace organisations in India would consolidate and transmit them to Paris by conventional communication means like Telex. The ISRO Technical Liaison Officer will access the concerned database in Paris and return the replies through the same communication channels. This mechanism is a potential alternative to direct on-line systems which normally involve very heavy international cost even though the turn-around time could extend to a few days."[7]

At present a few private entreprenuers and also the Bharat Heavy Electricals Limited (BHEL) are trying to provide information services of the Lockheed, SDC, etc. using international telex system.

India participated in INIS programme in 1970. The INIS is a computer based information system for nuclear Science. The INIS has a decentralised structure and its participating nations or member states provide the inputs or data which are centrally processed and made available as INIS *Atom Idex*. The magnetic tape containing the bibliographical data relating to nuclear science are made available to the member states as its by-product. India has its national input centre for INIS at the Bhaba Atomic Research Centre (BARC) Library, Trombay. The INIS tapes are processed using DEC—10 computer system of the National Centre for software development and computing techniques at Tata Institute of Fundamental Research, Bombay.

The International Information System for the Agricultural Sciences (AGRIS) is the first truly international co-operative programme in the field of agricultural science and technology supported by the United Nations Food and Agricultural Organisation which approximately deals with 2,10,000 references a year produced from many countries and in many languages. The AGRIS data base is available on magnetic tapes which can be used by the national centres for their own computerised information retrieval system. The AGRIS data base is available on-line through several commercial vendors like RECKON, SDC, DIALOG, BRS etc. The Agrindex is the printed output of AGRIS issued monthly. India provides data to the AGRIS data base and coordinates with it through an Agricultural Research Information Centre under ICAR at New Delhi.

In India a project is likely to be taken up on computerised numeric and

bibliographic data base on oceanography as a part of Scientific and Technology Information System for Asia and Pacific (ASTNFO) programme at the National Institute of Oceanography in Goa. Similarly another programme has been sponsored by UGC to implement a multidatabase information system for SDI services at INSDOC.

In order to process the technical reports of Reactor Research Centre, Madras a computerized database has been created on magnetic tape using IBM's TEXTPAC programme which was available at the IIT, Madras.

INSDOC has conducted a number of experiments on computerised documentation and information work and preparation of union catalogue for the purpose of data retrieval using different types of computers. The objectives of such experiments are intended to generate database of scientific serials held in major libraries; generate sub-files to produce the classified sponsors and statewise indexes, individual library holdings and holdings of group of libraries, make use of data to produce regional union catalogues; expeditiously and thus update the data base.

The ICSSR Data Archive has a continuous programme of acquiring social science data sets created under the ICSSR financed projects and also those which did not receive financial assistance from the ICSSR and to organise them in machine-readable form in order to diffuse them among social scientists for secondary analysis. The ICSSR has also identified some national institutions of India in order to make this scheme accessible to greater number of social scientists and for the purpose of guidance and consultation services in data processing.

10 CONCLUSION

Considering the growing need for data by the planners, scientists decision makers technologists, significant role of data bases and computerised online information transfer systems for the scientific, cultural, industrial, technological and economic development of a welfare state like India, it is much essential that our union government should formulate national, library and information policy for speedy storage and retrieval of various types of data. Then different types of national information systems like NISSAT programme should be created covering the field of agricultural sciences and technology, medical sciences, social sciences and each such systems should establish databases which will serve as the national inputting centre to the international database like INIS, AGRIS, MEDLAR, INSPEC, CAS, etc. as per the guide lines of UNISIST programme.

Further the library and information science profession must make efforts to bring to the notice of the different states as well as the union government through different meetings, seminars, conferences and memoranda, etc. regarding tremendous expansion of information sources and introduction of computerised technology for keeping pace with the rapid

growth of data production, publication of different important abstracts and bibliographies including INB, in machine-readable form and creation of data bases at different national, sectoral and regional information centres. Moreover, attempts should be made to computerise serial and circulation control system of different libraries of national interest. Also adequate steps should be taken for system standardization, vocabulary assistance, online user manuals and improved data base directories. Lastly library profession must encourage and also support the verdors of online services and data bases.

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NATIONAL POLICY FOR DEVELOPMENT OF DATA BASES IN SCIENCE AND TECHNOLOGY LIBRARIES

GOPAL PRASAD SAHU

1 INTRODUCTION

Computers have come of age, though not yet popular with our libraries. Most libraries in the country find it hard to up-date their bookshelves with "the current knowledge carriers" i e the most modern books on the topical issues of science, education, technology, space, etc.

Round the world, computers are very much in use today. The computer has a very special use in a library. It can sort, store and retrieve the required piece of knowledge as and when needed. They are equally important for the dissemination of information. The *modus operandi* of a computer is as simple and easy as a common typewriter. This paper presents an exposition to prove it. All the methods included here are programmed in Basic II and successfully implemented on HCL 1800 Microcomputer system.

A national library and information system has to take care of the multidimentional and multilevel information requirements of the users of the country. Speedy intake of potential information and expeditious dissemination of information to those who can make use of it, becomes an integral part of the national information services.

Data form the basis for performing research, planning and for making administrative decisions and as such, an efficient data base, data bank, etc will have to be incorporated in the national information system. In this paper, the creation of an effective data base for specialised libraries have been discussed. And attempts have been made to evolve a sound system for data base creation for the users of the specialised libraries.

1.1 Stage 1. Library Automation

This includes the use of computers to aid in the house keeping in libraries such as acquisition, serial control, circulation control, cataloguing and union catalogue production.

1.2 Stage 2. Information Retrieval

This includes the use of computers for generating index entries for the storage and selective retrieval of bibliographic data for such applications as, reference service, compiling bibliographies and selective dissemination of information.

The advantages and problems of computerization in libraries have been actively debated upon by librarians and information analysts. Such discussions are largely based on the experience of American and European Libraries.

For the first time the computer was used for information retrieval in the library environment in 1964 when Florida Atlantic University decided that the catalogues should also be searchable by machines. Later on Ranganathan in 1967 outlined the fundamental components and operations of a computerized document retrieval system (The DOC FINDER). Another study on the use of a general purpose computer for information storage and retrieval was an experimental project carried out at INSDOC.

2 WHAT IS A DATA BASE?

James Martin says "A much publicized but impracticable idea of a data base says that a corporation keeps all its processable items of data in a large reservoir in which a diversity of data users can go fishing."

"A complex data base, however, has to be built up stage by stage. In fact, today most data bases serve a limited set of applications. One computer is often referred to as having many data bases."

"A data base may be defined as a collection of interrelated data stored together without harmful or unnecessary redundancy to serve multiple applications." The data are stored so that they are independent of programmes which use the data. A common and controlled approach is used in adding new data and in modifying and retrieving existing data within the data base. The data is structured so as to provide a foundation for future application development.

3 CREATION OF VARIOUS DATA BASES

Initially a data base called "Raw data base" is created. Several such data bases for various books can be created. From the "Raw data base"

two data bases are created. One is the "Author data base" and other is the "Title data base".

3.1 Creating Raw Data Base

Accession Register is the best source of information regarding the books available in a particular library. The information can be fed in random order. The entry of a Raw data base is impossible to be finished in a single stretch, but it can continued for some days. After every batch of entries, their printouts are taken so as to keep a track of what has been entered and what still remains. Later on these listings will help in the correction work. The information stored in this way on "Floppy discs" makes "Raw Data Base".

3.1.1 *Description of the Correction Programme*

The simplest method of correction is "retyping" the complete entry and put in the position of the old incorrect data. But according to the simplest computer rule—"the more keys a user has to press, the more is his likelihood of making mistakes". Certainly a complete record could not be incorrect at the same time. The most common errors are of typing mistakes of spellings in author's name or subject names. It may be typing mistakes of wrong digits in the accession numbers or classification code numbers. The minute corrections could be eased by using proper software. An incorrect entry can be corrected in a minimum period of time and effort. Any one of the suitable code numbers can be given to the different parts of a record, e g :

Code No.	*Data Base*
(1)	Author's Name
(2)	Title
(3)	Accession Number(s)
(4)	Classification No.
(5)	No. of copies
(6)	Record No.
(7)	Sector No.
(8)	No changes.

Practically, the record is displayed on the VDU. See the incorrect entry

on VDU and after proper correction simply press the code key. When the incorrect entry is too long, the newly corrected entry is typed after the incorrect entry separated by a comma. This will be a helpful facility in modern computers. When the corrections are over, the corrected "Raw data base" is ready to be used as a source for generating two searchable alphabetically arranged data bases, namely "Author data base" and "Title data base".

3.2 Creating Author Data Base

The corrected Raw data base is the source for generating a searchable data base that is alphabetically arranged in the author's name. The author data base is generated from the application of sort techniques on Raw data base.

3.2.1 *Bubble Sort Method*

The process of sorting a collection of items consists of arranging them in a helpful order. Bubble sort method is very fast. In this method, each element is compared with its neighbour. If a particular pair is found to be out of order, the two elements are interchanged. There are two loops, one nested in another. The outer loop runs from 1 to 1 less than the length of the array. The inner loop runs from one larger than the outer loop upto the length of the array. With this method, the smaller items "float" to the top of the array during the storing process. This is of course the origin of the name "bubble sort". This method is good for short lists.

3.2.2 *Shell Metzner Sort Method*

If the length of the lists increases than 50, the "shell sort method" can be used in place of "bubble sort method". The shell sort is a bit more complicated, but it can sort more quickly. In this method comparisons are initially made over long distant items. The first item in the array is compared with the one in the middle, rather than with the one right next to it.

The above two methods are theoretically feasible and can be used as described. But for the purposes of the library another simpler method can be used. The complete list can be searched for names starting with 'A', if the list is not too long. So it is unnecessary to resort to, too complicated sorting algorithms, as that would waste a lot of time on software development. Therefore the list of 'A' can be sorted through Bubble sort method. Next element starting with the letter 'B' can be searched and individually sorted like the previous list. This process runs for all the twenty six letters of the alphabet. Finally all the smaller lists can be merged in to a single sorted list. In actual practice, the names of the authors

and titles were designated to occupy 106 bytes (characters) out of the total of 128 in each record and combined into a single staring. To distinguish between the two parts, a '*' (star) can be inserted before the subject name and at the end of the authors' names. To sort by the authors' names, the records can be straight away put for comparisons.

3.3 Creating Title Data Base

The title data base is generated from the corrected "Raw data base" through the use of the sorting methods. The titles are arranged alphabetically for making "Title data Base". Each time the title has to be extracted from the combined string before any comparisons are to be made. Extraction is obviously done by searching the position of the star '*' and then removing the latter part of the staring.

3.4 Information Retrieval System

Through Author and Title data bases, information regarding a specified book or a list of books on a specified subject or by a specified author can be easily acquired. The 'Search' can be made in both the data bases simultaneously. Search algorithms are of two types.

First — Linear search
Second — Binary search

Linear method is so simple. The original list is arranged in an ascending order and search is begun from the first element and each of the subsequent elements are compared with the desired elements. The search ends when it is found. This procedure works fine for short lists. Supposing the list has 'N' elements where 'N' is in few hundred and further the required element occupies the last position in the list. This algorithm has to take all the hundreds of comparisons. This form of search can never be recommended for very long lists. Here is how the second method helps, i e *Binary search.* In this method the desired value is compared with the mid value first. If the search value is greater than the middle entry, we can confine our search to the sub list consisting of the entries in the second half of the list. In this case the list gets shortened by a factor of two, thus eliminating one half of the data.

The same technique is applied to the sublist that possibly contains the value which is being sought. The process continues, testing the middle entry of each sublist and forming still shorter sublists, until either the value is found or there is only one entry in the sublist that is not equal to the search value. In that case proper message has to be given out that the sought value is not present.

3.5 Search Facilities

Any information regarding a book can be retrieved in 16 different ways. These ways of searching information regarding a book are called "Search Keys". Some of the search keys allow the user to search exhaustively in the Author or Title data base, while others carry on the search in a selective way through consulation with the different directories (files) already existing in the memory chores. The various keys are described below as follows.

The Search Key's Definition

S No	*Key*	*Search Field*
(1)	X (X)	Searches exhaustively for name 'X' in Author or Title data base. Here 'X' stands for Author name or few words in the Author name.
(2)	X* (X Star)	Searches selectively for all names starting with word 'X'.
(3)	X*Y (X Star Y)	Searches selectively when the command has two groups of characters separated by a star (*). This will display all the books that have author names starting with word 'X' and that contain the word 'Y' any where in the specified data base.
(4)	X.Y (X dot Y)	Searches exhaustively for the occurrence of word 'X' and 'Y' in either Author or Title data base. There is no restriction that the Author's name should start with 'X' or 'Y'.
(5)	X+Y (X plus Y)	Searches exhaustively for the occurrence of either 'X' or 'Y' or both in a specified data base. Here also it is not necessary that the name of the author start with X or Y. This type of operation is analogous to logical OR operation.
(6)	X−Y (X Minus Y)	Searches exhaustively for names having word 'X' and not word 'Y' either in Author or Title or both data bases Simultaneously.

4 PROGRAMMING

All information about books which are present in the library are fed

Search Key Application

Sl No	*Key*	*Examples of Search in*		
		Author data base (X and Y Corresponds to Author Name. . .)	*Title data base (X and Y Corresponds to Title. . .)*	*Combined search in both data bases. (X Corresponds to Author and Y Corresyonds to Title. . .)*
1	*2*	*3*	*4*	*5*
(1)	Y	If 'X' indicates word MIT	If 'X' indicates 'Electrical'	
		(i) Mithal G K —Applied Electronics	(i) Utilization of Electrical Energy—Garg G C and Dhir S M	—
		(ii) Mithal G K—Network	(ii) Electrical Power Utilisation —Garg R K	
		(iii) Mithal G K and Vanvasi A K —Pulse and Digital Wave Form		
		(iv) Mittal—Library Administration		
(2)	X*	If 'X' indicates MAR	If 'X' indicates COMP	
		(i) Martion L —Advances in Electronics	(i) Computer Programming—Dhar P.	
		(ii) Martion L —Electronics and Electron Physics	(ii) Computer Method of Structures —Mukherjee A K and Som P K	—

(3)	X*Y	If 'X' indicates MIT and 'Y' indicates VAN	If 'X' indicates Elements and 'Y' indicates Electronics	If 'X' indicates Uppal and 'Y' indicates Electrical
		(i) Mithal G K and Vanvasi A K —Pulse Digital Wave Form	(i) Elements of Electronics and Radio Engineering —Mithal G K	(i) Uppal S L —Electrical Power
			(ii) Elements of Electrical Engineering of Electronics —Uppal S L and Indu	(ii) Uppal S L —A Text Book of Electrical Engineering
(4)	X.Y	If 'X' indicates Terman and 'Y' indicates Pettit	If 'X' indicates Electrical and 'Y' indicates Utilization	If 'X' indicates Girdhar and 'Y' indicates Electrical
		(i) Terman Frederick Emmons and Pettit Joseph Mayo—Electronic Measurements	(i) Utilization of Electrical Energy— Garg G C and Dhir S M	(i) Garg G C and Girdhar S K —A Text Book of Electrical Machines
			(ii) Electrical Power Utilization —Garg R K	(ii) Garg G C, Girdhar S K and Dhir S M —Utilization of Electrical Power
(5)	X+Y	If 'X' indicates MIT and 'Y' indicates VAN	If 'X' indicates Digital and 'Y' indicates COMP	If 'X' indicates MIT and 'Y' indicates Electronics
		(i) Mithal G K —Applied Electronics	(i) Wave Shaping and Digital Circuits —Agrawal K K and Rai Suresh	(i) Rawelley P P and Mittal M P —Electrical Machines

(*Contd.*)

(*Contd.*)

1	2	3	4	5
		(ii) Mithal G K and Vanvashi A K —Pulse and Digital Electronics	(ii) Computer Method of Structures —Mukherjee A K and Som P K	(ii) Dhir S M —Basic Electronics
		(iii) Rawelley P P and Mittal M P —Electrical Machines	(iii) Digital Computers Fundamentals —Bartee Thomas C	(iii) Mithal G K —Applied Electronics
(6)	X—Y	If 'X' indicates Rama and 'Y' indicates Garg	If 'X' indicates Applied and 'Y' indicates Electronics	If 'X' indicates Ballaney and 'Y' indicates Thermodynamics.
		(i) Ramamoorthi V — Safety in Sky	(i) Applied Mechanics—Mathur S P	(i) Ballaney P L —Theory of Machines.
		(ii) Balasubramaniam J —Electrical Energy Utilization	(ii) Applied Thermodynamics— Ballaney P L	(ii) Ballaney P L —Thermal Engineering
		(iii) Ramabhadran S —Telecommunications	(iii) Elements of Applied Hydrology —Bhattacharya P K	

in a random manner. Correction programme provides a counter check regarding mistakes caused by the wrong entry of raw data base. From the raw data base, the Author data base and the Title data base are created. Still one step further, the 'ALPHA ARD' directory is created that carries the information regarding the storage area occupied by the information pertaining to books arranged alphabetically in authors' names and titles. With the help of this directory the selective search is made very fast.

The method of sorting adopted here is a combination of "merge" and "buble sort" which is an efficient sorting method. The main aim of this paper is to develop a search programme which may enable the user or the librarian to obtain information about a particular book in which he is interested. This programme is carried out by the user depending upon the various facilities provided to him in the form of different search keys. Basically there are six search keys.

4.1 Selective Search in an Exhaustive Way

Here the first few letters of the first word in either the author or the title field are provided to the user. The processor will look only for the first few letters of the first word, and give the answer.

4.2 Strictly Selective Search

Here the first word in either the author or title field is specified. This is purely selective search.

4.3 Exhaustive Search in Entire Data Base

Here the first few letters of a certain wordi n either author or title is specified. These letters may appear anywhere in either author or the title field. It need not be the first word. Thus this is totally an exhaustive search.

4.4 Exhaustive Search in Defined Field

In this search any word appearing in the author's or title name is given. This word is searched in the entire data base. This word may appear anywhere in the name of the author or title and hence it is an exhaustive search.

4.5 Exhuastive Search analogous to Logical or Operation

In this case searches are carried out for any word of the two or of both the words anywhere in the author or title field. This is an exhaustive search analogous to logical OR operation.

5.6 Exhaustive Search Analogous to Logical and Operation

In this type of search, the processor will look for a word exhaustively and not for the presence of another word specified in the author or title field. This is an exhaustive search analogous to logical AND opration,

The last step is to write a programme that would help in up-dating the information regarding books. This is useful particularly when some new books are added to the library. The updating procedure is adopted so as to place these books in the directory according to alphabetic order. This would involve some of the books that are to be placed in between the original books that are already sorted out.

After running these programmes for a few selected books, the actual information of the books is taken from the Accession Register and fed into a "floppy disk" on to the "off line machine". The memory requirement for this data base is 128 bytes for single book. It records of 560 Books are fed to the computer memory, it occupies 70 kilo bytes. In this way the information about the library containing 50,000 books, can be stored in 25 floppies only. You can imagine how greatly ! The time and space are saved through the use of this machine in the library.

5 FUTURE SCOPE

The automated library information system developed so far cannot be assumed as a complete work but has *a lot of potential for extending its use.*

Leaving aside the books, a library has to keep the records of several research papers and journals. A Scientist or Research Scholar may ask for all the previous research papers in his field which are printed in journals and they may be available in the library forever. He can base his new project over the earlier reference. And the librarian thus satisfies his need through a new data base creation,

The Next Utilization that may be Thought of is the interlinking of various subjects. In fact, the processes described in this paper are capable of satisfying the needs of interlinking. By interlinking we mean, to link one subject to another discipline. For example a Biochemist may one day need to tackle a problem that is slightly off his field; perhaps the effects of X-ray on the chemical composition of a human cell. He may like to know about X-ray. Naturally he would go to the library and try to find a book that serves his purpose. This is exactly the application in which this system could be best utilized.

Another use can be of confirmation of various standards and patents. Supposing one applies for a patent and the concerning department wants to assure whether the thing being patented is really original, and may make use of this facility.

Since there is no limit to the use of the system, which is complete and up-to-date. The user can modify it according to his requirements.

6 CONCLUSION

The ultimate objective of data base system is to make application development easier, cheaper, faster and more flexible. A data base system should be a repository of the data needed for an organization's data processing. The data should be accurate, private and protected from damage. The data base is the foundation stone of future Application Development. Hence: (1) intellectual investment is protected by using the existing data base by correcting and updating when needed, (2) the users of the library easily know and understand what data are available to them, (3) spontaneous requests for data can be handled without application of programmes having to be written again and again. Data requests can be staisfied with speed suitable to the usage of the data. And finally data are quickly available to users at almost all times when they need them.

A data dictionary may be created for each library and can be made available at any central place named-"National Information Centre."

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NATIONAL POLICY FOR LIBRARY AND INFORMATION SERVICE

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As mankind is marching towards a better tomorrow with the technical and scientific progress and achievements, the need of information is growing as a natural correlary. Exchange of scientific and technical information has played an important role in all the industrially developed countries. The growth of knowledge has been possible due to the two-way flow of information between scientists, or between scientist and engineers or between engineers and entrepreneurs. The scientific developments made in the last two centuries have passed all the scientific achievements made from the birth of mankind. The scientific and technological progress has been possible due to publication of periodicals and other forms of communication literature like reports, patents, etc.

The modern developments in communication channels have brought nearer the countries. The eradication of illiteracy and the development of higher education have generated an ever increasing demand for information. The need to facilitate the worldwide flow of information in order to offer universal access to information is becoming increasingly important. Libraries and information services have an important role to play in encouraging universal access to information.

India has earned a laurel in the field of science and technology during the post-independent era among the countries of the third world. The scientific and technological development necessitated the development of information flow also. India is a vast country a subcontinent with different agroclimatic regions. The transport and communication are not developed like other advanced countries. The libraries are not fully equipped with modern sophisticated instruments and appliances. The computers are yet to make an inroad to the libraries. The libraries excepting a few are mostly suffering from chronic shortage of finance and manpower. The prices of books and journals are going up every year. The authorities provide fund in A P and and the price hike is growing in G P. The periodicals are the primary source of information. Unless

adequate number of primary journals are made available to our readers, researchers at large the development of the country in the field of science and technology shall be hindered. "New achievements in technology offer a potential for enabling libraries and information centres to serve the public move fully, expeditiously and economically[1]".

An attempt was made under the aegis of UNO to organise a World Science Information System. The objectives of UNISIST were :

1 Improving tools of systems interconnection;
2 strengthening the role of institutional components of the information transfer chain;
3 development of specialised manpower;
4 development of scientific information policies and structures; and
5 assistance to developing countries in the development of scientific and technical information infrastructures.

However, dissatisfaction with the performance of the UNISIST lead to the development of National Information System (NATIS). The details of NATIS is not within the perview of this paper. We can learn and gain from others experience. Without going into details, the summary of the design and planning of National Information Systems set out the objectives for national and international action under the NATIS programmes.

1 Formulation of a national information policy;
2 design and planning of National information systems;
3 methodology of analysis of users need and inventory of existing information sources;
4 establishment of a legislative framework for the implementation of NATIS; and
5 methodology of cost analysis for the effective implementation of the national plan for NATIS in the content of its contribution to national development.

As a first step to have a National Information Policy the establishment of national libraries in major fields like agriculture, medicine and technology is necessary. The existing national library should be developed for humanities. The libraries of IARI for Agriculture, AIIMS for medicine and an IIT library should be converted to national libraries. However, such selection for national libraries shall require careful study and evaluation. Considering the huge cost involved and requirement of manpower it will not be unwise to convert the existing libraries noted above into national libraries. In the second stage regional libraries should be established with information oriented collections. In the third stage state,

university and other research libraries should be involved to disseminate the information. The regional libraries should have specialised collection based on the need of agroclimatic conditions, industrial set up and research and academic institutes available in the region. The national libraries should have a master list or union catalogue of the holdings of regional libraries. Care should be taken to minimise duplicate collection. The establishment of national libraries is the pre-requisite for a successful national information system. The national libraries chosen and declared should provide bibliographical, lending information, reference and referral services, collections, standards and international representations. Besides science and technology, information should he made available to those concerned with economic planning, trade and industry, agriculture, social welfare and education. The national libraries should monitor the nation's library services and initiating appropriate action to meet problems and grasp opportunities as these were identified. This will help to assess the need of the readers and ways and means to help him. The initiation of appropriate action and participation in the planning and overall development are necessary for a successful national information system.

Participation in international information system is another important step. No library can be self sufficient in its collection. It is also not possible to anticipate every type of querry. The libraries of developing countries depend more on the libraries of developed countries for acquiring informations.

The national and regional libraries so established should be provided with reprographic facilities and computers. The state, university and research libraries should have direct telex service with other regional libraries. Similarly the regional libraries should have direct telex service with the national libraries for prompt services.

Training and research facilities should be made available for manpower development to work in these libraries.

National resource sharing is another step towards the achievement of successful national information system.

The Government and other financial institutions should provide adequate finance for development and improvement of dissemination of information. The inflow and outflow of information should be based on sound financial base. In the light of declared policies of Library of Congress it should be declared that:

1 "Access to information and ideas is indespensable to the development of human potential, the advancement of civilization and the continuance of enlightened self government."
2 "The preservation and the dissemination of information and ideas are the primary purposes and functions of libraries and information centres."

To these cherished goals we can add that:

3 Informations should be made available to the users at the lowest cost and at the least time.
4 Information should not be unnecessarily classified as "secret" and should not debar the scientists to go through them.
5 Every Indian should have access to information, in whatever field of specialisation he belongs to, from the information centres. Age, sex, academic achievements, should not be a bar.

For a successful operation of any system a sound policy is a must. A faithful implementation of policy require a group of dedicated workers to achieve the goal. Before formulating and adopting a policy all aspects of it should be thoroughly analysed and examined.

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NATIONAL POLICY FOR LIBRARY AND INFORMATION SERVICES

N GANESAN

1 INTRODUCTION

In recent years there has been an increasing recognition among the governments of the developed as well as the developing countries that information, i.e, recorded or communicated knowledge gained by man through experience, observations and experiments is a vital national and international resource and a prerequisite to the effective pursuit of national policies for economic, scientific, technological and social development. A declared National Policy for Library and Information Services (NPLIS) which implies a strong government interest in information planning would be expected to create the climate most hospitable to the development of an efficient information system in a country. The fundamental premise underlying such a policy is that any economic, social and political system will perform more efficiently if mechanism exists to ensure that decision-makers in various fields at different levels have timely access to relevant information in an appropriate form. A number of countries have carried out extensive studies towards the efficient provision of information services at national level and are continuing their efforts, keenly aware that they still have much to accomplish, so as to be able to satisfy the rapidly expanding demands for information in all fields of human activities.

The word 'information' means the symbolic elements used for communicating scientific and technical and other types of knowledge, irrespective of their nature (numerical, textual, etc) and form of presentation. It refers both to the substance or contents of the documents and to their physical existence, and the term is also used to denote both the message (substance and form) and its communication (act). Information is the message conveyed or intended to be conveyed by a systematised body of ideas, or its accepted or acceptable substitution. The information may be

1 *Scientific Information* : Information arising from or pertaining to research activities, usually in the natural and social sciences, or

2 *Technological Information* : Information pertaining to technology (i e engineering, managerial and other knowledge necessary to produce goods and services needed by the society); and

3 *Development Information* : Economic, social and cultural for example, population and commercial statistics which is neither scientific, nor technological but is generated for operational purposes.

The word 'policy' indicates a definite course or method of action selected from among alternatives and in the light of given conditions to guide and usually determine present and future decision.

The national information policy means a set of decisions taken by a government through the appropriate laws and regulations, to orient the harmonious development of the information transfer activities in order to satisfy the information need of the country. A national policy needs the provisions for implementation, financial, personal and institutional.

2 NEED FOR A NATIONAL POLICY

Individual countries should accept responsibilities for creating national foci for developing information resources to support their scientists, engineers and other potential users.

At the international level a key recommendation of the UNISIST study calls on governments to establish such foci in the perspective of regional and international co-operation. Unesco under the UNISIST programme should make a determined effort to help the member states to work out, plan or complete their information and library policies. It is noteworthy that UNISIST has already acquired, considerable expertise, prepared numerous guideline ducuments, provided technical assistance and consultancy service at several occasions and above all it has adopted a flexible and dynamic policy based largely on extensive co-operation and collective ventures for making use of them for its own improvement. Hence it is useful to study the individual situations regarding information resources and libraries, so as to analyse and appraise the framework and initiate a study of the objectives which each country could pursue in respect of information resources and the policy it could adopt.

3 NATIONAL INFORMATION AND LIBRARY POLICY

National Information Policy must seek to ensure that the world's professional and specialised knowledge is fully and properly used in ensuring socio-economic development. It is a major component of the policy for science and technology. Just as science and technology policy must be an

integral part of overall government policy linked to social and economic affairs, information policy must seek to ensure that the scientific knowledge embodying man's ever-lasting pursuit of truth, is made available for generating more knowledge without regard to race, language, colour and religion or political barriers.

There are two essential stages of the modern social behaviour, namely (i) selection of objectives, and (ii) creating appropriate technologies to achieve those objectives. This in fact, is called policy when we speak of a government, strategy when we speak of an enterprise of a group of men united for a particular action and involvement when we consider an individual. In general the basic plan of actions is to build a national information and library network in the existing infra-structure by co-ordinating present activities and services developing their strong points, envisaging private and public sectors for information use and the creating information awareness in the society.

Concept of NATIS (National Information System) was promoted by UNESCO and accepted by the 1974 Inter-governmental conference for the planning of National Documentation, Library and Archives infra-structures and by the Unesco General Conference, at its 18th session. NATIS comprises all agencies, resources, processes and activities involved in the transfer of information within the country. Co-ordination within NATIS requires organisational arrangement for the articulations and supervision of policy. The NATIS aims to :

1 Provide necessary central library services;
2 Provide leadership in this the library component of NATIS; and
3 Participate actively in library and information activities for its overall development.

NATIS constitutes all services meant to provide information for all sectors of the community and for all categories of users. The task of NATIS is to ensure that all engaged in political, economic educational social or cultural activities receive the required information enabling them to render their fullest contribution to the whole community.

4 NATIONAL POLICY FOR INFORMATION AND LIBRARY SERVICES FOR INDIA

The NPLIS has to consider the concept of NATIS in identifying objectives and in creating appropriate technologies for their fulfilment. In India, for the first time in 1971, serious thought was given to the need for building up a national network of L & IS to meet the expanding information needs of scientists and research workers. In August, 1971 a request was made to the UNESCO for a short term mission of a consultant to advise

for establishing such a service in the country. Dr Peter Lazar was accordingly assigned the mission by UNESCO during March-April 1972 and he prepared a report recommending the establishment of a National Information System for Science and Technology (NISSAT) in October 1971.

Of the several panels and planning groups constituted for preparation of various sectoral plans, one panel group was 'Information' group. The report of the panel group headed by Dr V A Kamath[1] prepared in 1973 recommended the establishment of a National Information System for Science and Technology (NISSAT) under the Department of Science and Technology for 1974 and 1979. An outlay of Rs 150.00 millions was proposed for the first five-year period. The planning of NISSAT commenced from 1975 and the details of the scheme were worked out in consultation with information experts and sectoral representatives. The detailed scheme was then appraised by the Planning Commission, the Ministry of Finance and the Department of Science and Technology and was authorised for implementation in June 1977.

NISSAT should form an integral part of a total national information system. The following should be the main features of India's National Information and Library policy which would recognise the importance of effective information and library services.

To foster the co-ordination and extension of library and information services on a national scale through various government and non-governmental organisations and to provide these organisations with supplementary finance as necessary for the purpose;

to maintain and develop a national collection of library material including a comprehensive collection of library material relating to India and make it available to all interested persons, institutions and organisations;

to provide services such as Selective Dissemination of Information (SDI), Current Awareness Service, Retrospective Bibliographies, Referral Services, Enquiry Services, Translation Services;

to establish and maintain the national union catalogue of journals, monographs, theses etc, and a location service based on it;

to allocate responsibilities to organisations for building up strong collections in special subject fields;

to assist libraries in the country to acquire, process and make information/documents available, eg supplying bibliographic information either in catalogue card form or in computer readable form such as magnetic tapes;

to act as the center for the national contribution to Universal Bibliographic Control (UBC) and such other international ventures, e g International Serials Data System (ISDS), international MARC exchange schemes, International Standard Book Number Scheme (ISBN), Inter-

national Standard Serial Number (ISSN) etc;
to provide reference services, including preparation of subject bibliographies and inter-library loan of books and photo-copies of journal, articles;
to undertake and support research into library and information services;
to provide central national lending services and to build up a national centre for foreign lending and borrowing of documents. eg British Library Lending Division;
to promote the orderly development of library and information services;
to promote education in the use of library and information services;
to build up translation facilities in various languages;
to build up adequate computer facilities for information handling;
to build up adequate reprographic facilities in information centres;
to build up of expertise and provide for training in information field for an adequate number of persons in documentation, information science, communication, computer science, reprography and translation;
to support projects in documentation, information science, communication, computer science, reprography and translation;
to support research programmes in documentation, information science, computer science, communication, reprography and translation;
to sponsor conferences, symposia, seminars, workshops, etc in documentation, information science, computer science, communication, reprography and translation;
to develop facilities for providing information services to industry;
to establish data banks for scientific, techno-economic, industrial, agricultural, population, etc information;
to collaborate with national and international organisations engaged in information service;
to organize a register of on-going research in various fields in India;
to prepare directories of the information user communities;
to produce national bibliography and associated with it a catalogue card services;
to establish national referral centre(s) to direct users to existing information sources;
to establish regional dormitories for storing older material weeded out by service libraries;
to undertake periodical surveys for assessing information needs and uses in the country;
to acquire and conserve copies of all significant, worthwhile and useful publications in the country;
to ensure that the national output of scientific and other literature is well covered by either the major abstracting and indexing services, not-

ably those represented on ICSU's Abstracting Board or by one or more national services—or by both methods;

to promote the progressive use of the computer for information handling and library routines and to introduce on-line information retrieval systems whenever feasible;

to promote library, bibliographic information services and communication standards; and

to provide adequate representation of the nation's information and library interests at the international level in various committees and working groups.

5 CONCLUSION

The objectives and functions enumerated above are only guide-lines for the formulation of the NPLIS. The selection of objectives and assigning priorities to them has to be done carefully considering the national scene. The average expenditure in scientific and technological informatihn by industrialised nations is of the order of 5 percent of their R and D expenditure. The Government of India should allot at least 5 percent of its R and D layout to S and T information.

The NPLIS must form an integral part of overall government policy linked to science and technology, and socio-economic development policy of the nation. The NPLIS must recognise the importance of effective information and library services.

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NATIONAL POLICY FOR L & IS : IMPACT OF INOFRMATIC SYSTEM ON PRODUCTS, USERS AND SERVICES OF LIBRARIES

JOGESH MISRA

0 INFORMATION TECHNOLOGY REVOLUTION (ITR)

In present day societies and as witnessed during the last decades, all the means of exchanging information which is a compound of impact of computer system, telecommunications, audio-visual media, reprography and photography, database, interface system, etc., have appreciably enhanced mankind's potential for national, regional and global information network. This enhancement itself is a response to the "information explosion" which has shaken the libraries also and therefore libraries are passing through a transition, the concept of which is in a stage of transformation, reshaping and redrawing of the traditional map.

1 NEW APPROACH TO INFORMATION

The awareness of the value of information leads to the uncovering of specific properties and characteristics of information, to the perception of information as a *physical entity*, to its identification as a *natural resource* and as a *form of energy* available to mankind, waiting to be exploited. Information being the major *raw material* of our time, has become the world's fastest growing and most important business. It's being most *basic management tool* for rational planning.

2 INFORMATIC SYSTEM

This new approach to information compelled the use of a new word expressing this new concept as 'INFOMATICS'. The concepts of 'informatics' analyse the concepts of information and comment on the role of the computer and its associated concepts such as computer science, com-

puting sciences and information science as the media for human knowledge, and for communication in technical, economic and social contexts. Informatics also connotes the analysis and formulation of national and international strategies and policies for informatisation. Computer science studies the theoretical, practical and technological aspects of the computer. Computer technology is the most sophisticated technology ever invented by man. It has influenced the library and information activities which deal with ever increasing number of documents and information contained in these documents and strive to serve pinpointedly the right user expeditiously. Information science deals with the handling of information in libraries, archives and documentaion services. It is recognised fact that information science has arisen in part from the documentation movement. These two areas have certain formal connections which imply that there has been a disciplinary convergence of librarianship toward information science. The emergence of computer in the last 15 years or so has given librarians themselves a new power of seeing beyond the conventional boundaries of their thinking and activities traditionally imposed by their concern for individual libraries.

2.1 Since there is a disciplinary continuum between librarianship and information science with no easily identifiable boundary lines separating them, there still is the difference between the extreme ends of the continuum which is clear and even dramatic. My conviction is that without informatics, the whole campaign for politico-socio-economic developmental game would be just an intellectual exercise, as because librarianship and information science are catalyzers of national development.

2.11 Social implications of wide diffusion of informatic system are one of the most important aspects of computer development. We consider informatic system as a group of three interrelated elements: (1) computer system; (2) database; (3) interface system. This group as a unified structure cooperates with an environment. An organization for the needs of which the system operates on, as well as other organizations and socio-economic structures cooperating with it, are considered as informatic system *environment*. Library, information centre, factory, research institute and bank are some examples of such organizations. Informatic system is strongly rooted in its milieu what is manifested by feedback between it and environment. Data base stores files related to informatic system activity. The database is physically located in the computer system memory. Files contents reflects the state of those parts of environment which correspond to the informatic system activities. The third element of informatic system is *an interface between computer system, database* and the *environment*. The interface system consists of software packages which implement particular functions of informatic system and it includes sometimes additional hardware such as telecommunication devices. Man-machine language, by means of which the user communicates with the system and

vice-versa, is also an important element of the interface. A system aiding library activities is an example of the informatic system. Database stores, among others, catalogues of books, serials and internal reports, user files, acquisition files, etc. The interface system includes, for instance, the following packages : "RETRO-RETRIEVAL", "LOAN", "ACQUISITIONS", "ARREARS". Obviously, the computer system being a part of this informatic system has to have appropriate parameters resulting from the database size, input and output information streams intensities, number of users, (as because without user's pressure sophisticated database management systems could not be conceived) required response time, etc.

2.12 It is difficult to see precisely what the library and information services in future may be like, or even the extent to which informatic system will permit other agencies to take over functions currently performed by libraries. The librarian, as information manager is bewildered, undecided, facing critical choices because the necessary infrastructures are far from existent, superstitions and reactionary tradition are still wide spread. The librarians are not excited about informatics or informatization presumably because the profession is currently ill-prepared and ill-equipped. They feel, it is neither cost-effective nor cost beneficial; they can't guarantee, what they are going to put in their libraries is going to work; they think that lot of the services received from the computer are frills, because they can't convince their managements to fund such an operation; they approach computerization with fear, apprehension, doubts and tremble. To me such an attitude is incongruous while claiming librarianship is an age old undeterred robust profession.

3 LIBRARY'S PARTICIPATION IN INFORMATIC SYSTEM

Libraries must participate in wider national developments and not be kept depressed as they so often have been, as because information is becoming a major social, scientific, economic and political resource in our society. Presumably, informatic system may become common by 1990. The libraries cannot escape from the entrance of electronic information technology (EIT). What remains open to question is the extent to which libraries and information services will be in a position to capitalize on the opportunities to broaden and enhance library services that informatic system offers. In today's world, mankind is not asked for his opinion about technology transfer, whether it is desirable or undesirable. We are face to face with the situation as to when it will come, where and in what manner or in what form. The application of technology will continue to expand, because it is *promoted by the economic system.*

3.1 Last-but not the least, the librarianship currently is a labour intensive profession therefore it will necessitate a total revision of professional values. It will have to be redifined and reconceptualized. I caution the

professionals that librarians role will be userped by computer specialists unless we professionals take a provocative position and learn informatics, the new language of computer science and interact with computer scientists with courage and conviction.

4 IMPACT OF INFORMATICS—ON STAFF, SERVICES AND USERS

4.1 The speed and the comprehensiveness of informatized services, particularly, the on-line interactive services tend to escalate user expectations of the library as a whole to sometimes unrealistic levels. Users seem to think that the library is automated in everything, and they are very demanding about getting faster photocopies, printed journals, and inter-library loans so that they can take immediate advantage of the bibliographical citations produced by the computer search either in the form of CAS, SDI or Retrospective search ssrvices.

4.2 The impact of informatic system on staff will be that they will be saved from the drudgery and tedium of literature search while making the process much faster and more comprehensive, they will acquire first hand knowledge of user needs; they will develop face to face relationship with users; the standardization will be achieved; the work load, as popularly believed, instead of decreasing would increase in the form of clerical aspects, record keeping, despaching and so on. The tangible impact would be felt in the form that the *status of the staff* would be enhanced in the eyes of the users as well as with the authorities.

4.3 The library would be in a much better position to render accurate, precise and faster library services. It would be economical and comprehensive. There would be greater productivity and service would be personalized so as to be tailored to one's needs. There would be much more access points and provision of abstracts may also be feasible. The informatic system would impose more user involvement on services.

4.4 The impact on users though difficult to be quantified, would be that there would be greater information awareness, they would be more alert in exploiting library resources, they would be appreciative of services and support the library work. The use of library resources would be better utilized; and it would be considered as important component of IR system. It has been observed that there is tremendous increase in requests for xerox copies and procurement of documents as well as the transactions at the circulation counter have increased. The inter-library loans have increased manifold.

Needless to say that CAS, SDI and Retrospective search services have gained momentum as first hand impact of informatics systems.

5 CONCLUSION

In conclusion, I would point out that information science is still a weak link in library science education, graduates in that speciality are very few at present, the traditional library work and information work are not quite the same as because each has its emphasis in the scope of collection, the mode of service and the aspect of function. In fact the difficulty is being experienced in correlating the needs of the users and the objective condition of the state of information work.

5.1 All countries are struggling for having the organization of an efficient technology transfer mechanism suited to the local conditions and environment. We too should not lag behind. We have to face the reality of automation and electronic information technology, as because one cannot put back the clock. There is no escape nor scope for debates and doubts on it. Libraries must be in the mainstream of wider national developments and not be kept depressed as they so often have been, hence as a warning to all my professional colleagues, I would impress upon them that automation in libraries in India needs serious consideration and hence adequate preparation and sufficient interaction with scientists in computer science, telecommunication and their allied disciplines is imperative.

I hope this conference would deliberate over the key-points raised in this paper.

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SOCIAL SCIENCE RESEARCH LIBRARIES/ INFORMATION CENTRES IN INDIA: STATUS REPORT

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Social sciences play an important and responsible role in improving the quality of life. Social science information properly acquired, processed and made accessible, can contribute immensely to various processes of development and at the same time help in avoiding duplication and wastage of resources on research already accomplished. It is generally accepted that the quality and quantity of research work apart from other factors depends upon efficient library and documentation services. It provides facilities wherein the researcher, administrator and information professional act in unison for expanding frontiers of knowledge as well as for contributing to process of national development.

1 DEFINITION

1.1 SOCIAL SCIENCES

Prof Seligman defines social sciences as "those mental or cultural sciences which deal with the activities of the individual as a member of group" and the definition is more or less accepted.

1.2 RESEARCH LIBRARIES

The concept evades clear and generally acceptable definition. However, libraries that collect and make available for use research material on a given subject or a select range of subjects are generally termed as research libraries. They are primarily designed to serve a limited number of experts, executives, research scholars, etc and do not naturally fit in the categories of national libraries, university libraries and school libraries. Research

libraries may be attached to government departments, universities, research institutions, learned societies and commercial/ industrial concerns.

2 SCOPE

The emphasis in the present status report is mainly on the social science research libraries attached to research institutes and learned societies, covering following disciplines: anthropology, commerce, demography, economics, education, geography, history, law, linguistics, management, political science (including international relations), psychology, public administration, sociology, statistics, and town and country planning.

3 SOCIAL SCIENCE RESEARCH LIBRARIES

Enumeration of social science research libraries has not been made since long. Efforts to prepare an inventory of specialised libraries were made by IASLIC in 1962; quite obviously considerable changes have occurred since then. At present the number goes around 400 based on the number of research institutes and professional organisations identified by ICSSR during its survey of financing of social science research in India (1975-1978). Though all of them may not be termed as specialised research libraries, but 70% of them do maintain a good collection of research material. A selective list of libraries arranged disciplinewise with the establishment year and book stock has been given in Annexture I. 39 out of 50 ie 75% listed libraries have been established after independence.

4 SOCIAL SCIENCE DOCUMENTATION/INFORMATION CENTRES

The services provided by research libraries are generally tuned to meeting the requirements of the work in progress in the parent organisation and to provide personalised service in anticipation and on specific request. Following lead given by Desidoc (1949) and Insdoc (1952), social science information and documentation centres also gradually emerged. These include Social Science Documentation Centre (SSDC), New Delhi, National Documentation Centre on Mass Communication, New Delhi, National Documentation Centre in Health and Family Planning, New Delhi, Small Enterprises National Documentation Centre (SENDOC), Hyderabad, and Centre on Rural Documentation, Hyderabad. Besides, some institute libraries like Tata Institute of Social Sciences. Bombay, Gokhale Institue of Politics and Economics, Pune, Indian Institute of Public Administration, New Delhi and National Council of Educational Research and Training, New Delhi provide documentation and information services within their specialised disciplines at national level. Other mission orient-

ed centres in the field of education, management, demography, etc are gradually emerging. UGC also plans to set up information centre in social sciences likely at Tata Institute of Social Sciences, Bombay after it has set up the one in sciences at Bangalore. The objective is to provide current or retrospective literature search services through national and international data grid and to be backed up by an efficient document supply mechanism.

5 DOCUMENTATION ACTIVITIES

Most of the libraries provide library services of routine nature, but some are engaged in specialised documentation activities within their own discipline(s). They bring out current awareness lists, indexing and abstracting bulletins, maintain press clippings, compile bibliographies, etc. Selective examples are :

Current awareness service by Indian Institute of Mass Communication, Delhi; *Artha Suchi* by National Council of Applied and Economic Research, New Delhi; *Bulletin of Documentation in Urban and Regional Planning* by Town and Country Planning Organisation, Delhi; *Current Press Cutting Titles* by Indian Institute of Management Library, Bangalore and *Documentation in Public Administration* by Institute of Public Administration, New Delhi; abstracting journals and state of art reports in various social science disciplines are brought out by ICSSR; and retrospective indexing of Indian social science periodicals has been taken up at SSDC. Some of the current bibliographical activities are : *Indian National Bibliography* by Central Reference Library, Calcutta; *Accession List, South Asia* by US Library of Congress Office in India, New Delhi; *SSDC Research Information Series, Area Study* and *Language Bibliographies* by SSDC; and *Bibliography of Doctoral Dissertations in Social Sciences and Humanities* by Association of Indian Universities, New Delhi. A few centres like SSDC, National Library, Calcutta and Documentation Unit pf IASLIC provide literature search services at national level. Document supply service is provided by SSDC to researchers all over India. Supporting documentation activities like compilation of union catalogues and directories of research institutions and organisations have also been taken up by SSDC.

6 DATA SERVICES

Since 1950's centres for collection and classification of data or data banks have been set up on a large scale. Most of these are located in the industrialised countries like United States and operate on world wide level. Telecommunications provide access to the information held by

them. In India, considerable statistical data is being continuously produced in the government departments, industries, university departments and research institutes. But no concerted effort has been made to keep track of this data and to make it available for future use. Sociological Research Unit of the Indian Statistical Institute in 1968 surveyed ongoing empirical research in India for the purpose of establishing an inventory of empirical data. The programme continued during 1969-1970. ICSSR Data Archives Unit collects data generated during research projects financed by ICSSR and also from other research organisations and maintains it in machine readable form. National Informatics Centre, Delhi is also doing useful work in this direction. It has developed 150 data bases for various Govt of India organisations. Other research institutes active in the area are SENDOC, Hyderabad, National Council of Applied Economic Research, Delhi and Small Industries Development Organisation, Delhi. Central Government also proposes to set up Statistical Data Bank during VIth Plan for storing data generated by various ministries and departments. We however need a good number of them which will cover statistical data, R & D activities, status of R & D abroad and country profiles management.

7 ARCHIVAL CENTRES

Old manuscripts as also age old published material have great value in social science research as compared to the natural sciences. Special efforts are therefore required to locate, preserve and disseminate information about the availability of such material to increase their use. National Library, Calcutta, National Archives, New Delhi, Nehru Memorial and Museum Library, Delhi; Khuda Baksh Oriental Public Library, Patna and Rampur Raza Library are few excellent centres which maintain old manuscripts, personal letters, diaries and speeches and taped records of oral history. Catalogues exclusively fors uch material are brought out by them.

8 REPOSITORY CENTRES

Library is a growing organism. There is constant inflow of new publications. Unless some system is devised to identify less used material and to arrange for their preservation separately from the active material, there is every likelihood of limited space available to it clogged with such material, leaving no space for functional activities and services. One way out tried in some of the western countries is to set up 'Repository Centres', inviting libraries to deposit their non-active material with provision to recall it at any time. Catalogues of holdings of these centres are circulated among other libraries to provide access to the material by a large number of clientelle. In India, SSDC-ICSSR in collaboration with Jawaharlal

Nehru University took initiative and set up Inter-Library Resources Centre at Delhi. So far 38 libraries have deposited about one lakh volumes of periodicals and other material of serial nature. Of course a lot more is desired to keep this Centre running efficiently.

9 CLEARING HOUSE CENTRES

A large number of research material in serial and non-serial form is continuously weeded out by libraries on account of it being duplicate, stray or less used. But the same material may be required by other libraries, information and community centres where it could be profitably used. For instance, large number of discarded costly periodicals if transferred to rural libraries, can be used by rural folk who otherwise would not have been able to read such journals, or even get exposed to them. To meet this situation, dormitories or clearing houses which act as collection and distributing centres for such material are required to be set up. No such clearing house centre has so far been established which could put to use this material in a fruitful way, although SSDC has been trying in a very limited way to do this.

10 NATIONAL CENTRE FOR SOCIAL SCIENCE PERIODICALS

There are about 20,000 periodicals in social sciences being published throughout the world. Due to exorbitant publishing cost, it is not possible for libraries to subscribe to all the desired journals. An alternative is to have one centralised agency which should receive maximum number of journals and provide photocopies of the desired articles to the researchers. There is no such centre at present working in the country. SSDC backed up by ILRC deposit collection and subscription to most of the current Indian social science journals alongwith both Indian and foreign Information Science journals has been fulfilling needs of research scholars in a limited way for periodical articles.

11 LIBRARY COLLECTION

Social science research material identified in the libraries may be categorised as (*a*) books, (*b*) periodicals, (*c*) newspapers, (*d*) research reports including doctoral theses and government reports, (*e*) working papers, (*f*) old manuscripts and private records of scholars and statesmen, (*g*) oral records and (*h*) visual material like maps, charts, posters, slides, etc.

An analysis of the books and periodical stock of about 200 libraries reported in ICSSR Survey of Social Science Research indicates that 60% of the libraries have a book collection of upto 5,000 titles and 90% of them receive around 200 current periodicals.

Some libraries specialise in particular form of literature, e g SSDC has a sizeable number of Ph D theses, research project reports and backfiles of serials in its ILRC collection; NMML has newspaper files of pre-independence period, oral records containing interviews with eminent persons and a large number of photographs relating to modern to Indian history; SENDOC specialises in reports on small industries, and Bhandarkar Oriental Research Institute in manuscripts.

Some libraries have special collection of publications of national and international bodies e g Central Secretariat Library—Govt of India publications; Parliament Library—publications of Govts of India, Canada and USA, and parliamentary debates of different countries; INC Library and NCAER Library—Unesco publications; Indian Institute of Public Administration Library—Publications of Economic Development Institute of IBRD; National Council of Applied Economic Research—World Bank publications; and Ministry of External Affairs Library—Treaty and International Agreement Series (US Dept of Commerce), Command Papers (HMSO London) and UN official documents.

12 FINANCIAL SUPPORT

As the research libraries work as constituent units of their parent bodies, they have to manage themselves within financial resources allocated by the parent body. It is generally opined that the institutes should spend 5% to 10% of their total budget on library services, but in practice, expenditure generally incurred is from 1% to 5%, as is evident from the statement showing expenditure on selected libraries/documentation centres (Annexure II). Even this does not present the complete picture as the tabulated libraries are financed by topmost research centres in the country. The financial health of most of the other research libraries is, however, still worse.

13 MANPOWER

The need for professionally trained manpower for running an institution is well recognised and a library is no exception to it. Thanks to educational infrastructure developed in the country, majority of the research libraries are now looked after by trained information personnel. Some of the information scientists in India have won worldwide fame and hold important positions in international organisations. No census to assess the total number of qualified personnel working in the research libraries has so far been made. Society for Information Science, Delhi, is now engaged in compiling a register of information scientists in India. It is, however, felt that majority of professionals are well versed in library procedures of conventional nature. With the advent of breath taking informa-

tion technology, professionals conversant with the latest techniques and capable of introducing them in place of existing manual procedures are greatly required. The Planning Commission Working Group on Modernisation of Library Services and Informatics for the 7th Five Year Plan also stressed this need. Micrographic Congress of India in its recent Convention at Delhi took note of manpower requirement and training of personnel in Reprography and Micrography. DRTC, INSDOC and leading university library departments will have to come forward to face this challenge. Otherwise, we will soon find ourselves handicapped in satisfying the information needs of constantly increasing users.

14 INFORMATION TECHNOLOGY

The rapid phenomenal advancement in information technology has brought about a change in the basic concept of old library's house keeping business. Computers, micro-processors, copiers, micrographics and advanced telecommunication techniques have facilitated greater use of information resources. In India, about 35 libraries are using computers. The areas to which these have been applied include house keeping activities, like controlling circulation, acquisition of resource material, maintenance of catalogue, and information services, like compilation of list of additions, bibliographical and SDI services, etc.

In social sciences, ICSSR Data Archives; Centre for Development in Instructional Technology, Indian Statistical Institute, National Council of Applied Economic Research and National Informatics Centre are at an advanced stage of computerisation and some others like SSDC and Administrative Staff College of India, Hyderabad have computerisation programmes on their planning board.

Micro-graphics greatly help in solving space problem and preservation of old records, and are also easy to handle. Some of the premier institutions like Nehru Memorial Museum and Library, National Archives, Tata Institute of Social Sciences, National Library and various university libraries have rich collections in micro-form. SSDC has recently started microfilming unpublished dissertations and research reports. There is, however, not much evidence of their use in other social science libraries.

Electronic copier is another gadget which has proved a boon in supplying the desired research material quickly and at economical cost. Research institutes realise its need and in the very near future, a copier in each library would be a common sight.

Video-tapes used for information and dissemination have not found their rightful place so far in our centres.

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Like other professionals, libraries and information personnel have their

organisations at national, state and local levels. The national level organisations are : Indian Library Association, Delhi, Indian Association of Special Libraries and Information Centres, Calcutta, Govt of India Librarians Association, Delhi, Society for Information Science, Delhi, Micrographic Congress of India, Bombay, and Computer Society of India, Bombay.

These organisations conduct conferences/seminars and courses, submit memoranda to governments, publish journals, prescribe professional standards, keep liasion with regional and international professional organisations and in general act as a moving spirit behind all professional activities in the country. GILA has instituted biennial D R Kalia Award, to be given to individual professional and an institution in recognition of their contribution to information services and professional literature. The first award (1984) goes to SSDC and Shri B Guha from Insdoc.

16 OVERVIEW

A number of libraries and information centres, as mentioned before, have come up but their growth is piecemeal without a proper plan. Most of these are clustered in metropolitan cities. Some regions have no research libraries except university libraries which to a limited extent satisfy the information needs of the local clientele.

No effort has been made towards resource sharing and networking in spite of shrinking budgets and soaring publication costs.

The services so far provided are of conventional type. No attempt is made to serve carefully selected, evaluated and digested information. Information service of a type which is increasingly in demand is more or so 'Information Analysis', which requires condensation, compaction, consolidation and repackaging of information. Compilation of indexing and abstracting tools only will not serve the purposes of planners and decision makers. They require information synthesised through available data and ready for immediate use. Effort is to be made to collect more unpublished information, numerical and statistical data and such other management information, of value for decision making.

Users are the most important part of the information system, but here again no proper survey to assess their needs has seen made.

While National Information System in Science and Technology has been ushered in, social sciences still lag behind.

Space shortage is the chronic problem that libraries face. As their activities increase, sooner or later they find themselves crowded in.

17 MISSING LINKS

The following centres will be required to be set up in order to have a workable information infrastructure:

(i) National Social Science Library.
(ii) National Social Science Periodicals Centre.
(iii) National Social Science Depository Library.
(iv) National Social Science Clearing House.
(v) National Data Archives.
(vi) National Institute for Quality Manpower.
(vii) National Information System in Social Sciences.

18 CONCLUSION

When all is said and done, it will not be off the mark to add that within limited resources, research libraries have succeeded in achieving a reasonable standard of information services. Government also appears keen to support them as is evident by setting up of National Informatics Centre, National Information System in Science and Technology, and UGC sponsored Science Information Centre.

The national planners now recognise the need for development of a national information infrastructure and seek guidance and suggestions from the professionals towards this end. The structure, whatever we have succeeded in setting up so far in the information field, requires to be strengthened and streamlined, adopting modern management techniques, and to be supported by trained manpower, latest technology and reasonable amount of finances. It should be dynamic enough to adjust to changing needs of users, and functions in cooperation with other regional and international net works.

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ANNEXURE I

Selective List Libraries and Documentation Centres of Research Institutions

(Disciplinewise)

Name	*Est. Year*	*No of Documents*
1	*2*	*3*
Anthropology		
Anthropological Survey of India Library, Calcutta	1945	3,05,388
M P Tribal Research and Development Institute Library, Bhopal	1954	25,000
Tribal Cultural Research and Training Institute Library, Hyderabad	1964	15,000
Demography		
International Institute for Population Studies Library, Bombay	1956	37,300
Economics		
Centre for Development Studies Library, Trivandrum	1970	46,050
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1	*2*	*3*
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Small Industry Extension Training Institute Library, Hyderabad	1962	30,000
Vaikunth Mehta National Institute of Cooperative Management Library, Pune	1967	25,000
Xavier Labour Relations Institute Library, Jamshedpur	1969	21,980
Education		
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History		
Asiatic Society of Bengal Library, Calcutta	1784	2,06,752
Asiatic Society of Bombay Library, Bombay	1804	2,05,579
Bhandarkar Oriental Research Institute Library, Pune	1917	40,000
Heras Institute of Indian History and Culture Library, Bombay	1926	21,000
National Archives of India, Delhi	1891	2,00,000
Nehru Memorial Museum and Library, Delhi	1967	80,000

Annexure I (*contd. on p* 140)

Annexure I (*contd. from p.* 139)

1	2	3
Linguistics		
Central Institute of Indian Languages Library, Mysore	1869	30,000
Government Central Pedagogical Institute Library, Allahabad	1948	70,000
Management		
Indian Institute of Management Library, Calcutta	1961	72,297
Indian Institute of Management Library, Ahmedabad	1962	88,526
Motilal Nehru Institute of Research and Business Administration Library, Allahabad	1965	32,023
Political Science		
Gokhale Institute of Politics and Economics Library, Pune	1930	1,72,975
Gokhale Institute of Public Affairs Library, Bangalore	1945	40,000
Institute of Constitutional and Parliamentary Studies Library, Delhi	1965	12,000
Institute for Defence Studies and Analysis Library, Delhi	1965	17,225
Psychology		
B M Institute Mental Health Library, Ahmedabad	1951	5,700
National Institute of Mental Health and Neurosciences Library, Bengalore	1954	15,000

Annexure I (*contd. on p.* 141)

Annexure I (*contd. from p.* 140)

1	*2*	*3*
Public Administration		
Administrative Staff College of India Library, Hyderabad	1957	40,000
Administrative Training Institute Library, Mysore	1967	20,000
Indian Institute of Public Administration Library, Delhi	1954	1,32,981
The H C M State Institute of Public Administration Library, Jaipur	1957	24,000
Social Sciences		
A N Sinha Institute of Social Studies Library, Patna	1953	17,969
Indian Institute of Advanced Study Library, Simla	1965	66,000
Indian School of Social Sciences Library, Trivandrum	1967	15,000
Tata Institute of Social Sciences Library, Bombay	1936	33,404
Sociology		
Indian Institute of Mass Communication Library and Documentation Centre, Delhi	1965	10,400
Institute for Social and Economic Change Library, Bangalore	1972	25,000
Vidya Bhawan Rural Institute Library, Udaipur	1956	22,000
Xavier Institute of Social Service Library, Ranchi	1955	75,000
Town and Country Planning		
School of Planning and Architecture Library, Delhi	1972	12,389
Statistics		
Indian Statistical Institute Library, Calcutta	1932	1,50,000

Note : University and Government Department libraries have been excluded.

ANNEXTURE II

Expenditure on Selected Libraries/Documentation Centres by Social Science Institutions during 1977-78

Sl. No.	*Name of the Institution*	*Total Expenditure (Planned)* (in Rs Lakh)	*Percent of the Total Budget*
1	*2*	*3*	*4*
1	Centre for Development Studies, Trivandram	523.00	38
2	Centre for the Study of Developing Studies, Delhi	30.00	3
3	Indian Institute of Public Administration, Delhi	216.00	4.8
4	Institute of Applied Manpower Research, Delhi	84.00	2.9
5	Institute of Criminology and Forensic Sciences, Delhi	35.00	4.3
6	Institute for Defence Studies and Analyses, Delhi	182.79	15.4
7	Institute for Social and Economic Change, Bangalore	116.26	3.8
8	Madras Institute of Development Studies, Madras	22.63	15
9	National Institute of Public Cooperation and Child Development, Delhi	40.00	2
10	National Institute of Public Finance and Policy, Delhi	59.07	6.34
11	National Institute of Urban Affairs, New Delhi	21.44	11.94
12	National Labour Institute, New Delhi	23.00	0.83
13	Social Science Documentation Centre, New Delhi	823.00	4

Source : ICSSR. Survey of Financing of social science research in India, 1974/75-1977/78.

SOCIAL SCIENCE RESEARCH LIBRARIES/ INFORMATION CENTRES IN INDIA: STATUS REPORT

S P AGRAWAL
MANOHAR LAL
MEENA WALIA

Social sciences play an important and responsible role in improving the quality of life. Social science information properly acquired, processed and made accessible, can contribute immensely to various processes of development and at the same time help in avoiding duplication and wastage of resources on research already accomplished. It is generally accepted that the quality and quantity of research work apart from other factors depends upon efficient library and documentation services. It provides facilities wherein the researcher, administrator and information professional act in unison for expanding frontiers of knowledge as well as for contributing to process of national development.

1 DEFINITION

1.1 SOCIAL SCIENCES

Prof Seligman defines social sciences as "those mental or cultural sciences which deal with the activities of the individual as a member of group" and the definition is more or less accepted.

1.2 RESEARCH LIBRARIES

The concept evades clear and generally acceptable definition. However, libraries that collect and make available for use research material on a given subject or a select range of subjects are generally termed as research libraries. They are primarily designed to serve a limited number of experts, executives, research scholars, etc and do not naturally fit in the categories of national libraries, university libraries and school libraries. Research

libraries may be attached to government departments, universities, research institutions, learned societies and commercial/ industrial concerns.

2 SCOPE

The emphasis in the present status report is mainly on the social science research libraries attached to research institutes and learned societies, covering following disciplines : anthropology, commerce, demography, economics, education, geography, history, law, linguistics, management, political science (including international relations), psychology, public administration, sociology, statistics, and town and country planning.

3 SOCIAL SCIENCE RESEARCH LIBRARIES

Enumeration of social science research libraries has not been made since long. Efforts to prepare an inventory of specialised libraries were made by IASLIC in 1962; quite obviously considerable changes have occurred since then. At present the number goes around 400 based on the number of research institutes and professional organisations identified by ICSSR during its survey of financing of social science research in India (1975-1978). Though all of them may not be termed as specialised research libraries, but 70% of them do maintain a good collection of research material. A selective list of libraries arranged disciplinewise with the establishment year and book stock has been given in Annexture I. 39 out of 50 ie 75% listed libraries have been established after independence.

4 SOCIAL SCIENCE DOCUMENTATION/INFORMATION CENTRES

The services provided by research libraries are generally tuned to meeting the requirements of the work in progress in the parent organisation and to provide personalised service in anticipation and on specific request. Following lead given by Desidoc (1949) and Insdoc (1952), social science information and documentation centres also gradually emerged. These include Social Science Documentation Centre (SSDC), New Delhi, National Documentation Centre on Mass Communication, New Delhi, National Documentation Centre in Health and Family Planning, New Delhi, Small Enterprises National Documentation Centre (SENDOC), Hyderabad, and Centre on Rural Documentation, Hyderabad. Besides, some institute libraries like Tata Institute of Social Sciences. Bombay, Gokhale Institue of Politics and Economics, Pune, Indian Institute of Public Administration, New Delhi and National Council of Educational Research and Training, New Delhi provide documentation and information services within their specialised disciplines at national level. Other mission orient-

ed centres in the field of education, management, demography, etc are gradually emerging. UGC also plans to set up information centre in social sciences likely at Tata Institute of Social Sciences, Bombay after it has set up the one in sciences at Bangalore. The objective is to provide current or retrospective literature search services through national and international data grid and to be backed up by an efficient document supply mechanism.

5 DOCUMENTATION ACTIVITIES

Most of the libraries provide library services of routine nature, but some are engaged in specialised documentation activities within their own discipline(s). They bring out current awareness lists, indexing and abstracting bulletins, maintain press clippings, compile bibliographies, etc. Selective examples are :

Current awareness service by Indian Institute of Mass Communication, Delhi; *Artha Suchi* by National Council of Applied and Economic Research, New Delhi; *Bulletin of Documentation in Urban and Regional Planning* by Town and Country Planning Organisation, Delhi; *Current Press Cutting Titles* by Indian Institute of Management Library, Bangalore and *Documentation in Public Administration* by Institute of Public Administration, New Delhi; abstracting journals and state of art reports in various social science disciplines are brought out by ICSSR; and retrospective indexing of Indian social science periodicals has been taken up at SSDC. Some of the current bibliographical activities are : *Indian National Bibliography* by Central Reference Library, Calcutta; *Accession List, South Asia* by US Library of Congress Office in India, New Delhi; *SSDC Research Information Series, Area Study* and *Language Bibliographies* by SSDC; and *Bibliography of Doctoral Dissertations in Social Sciences and Humanities* by Association of Indian Universities, New Delhi. A few centres like SSDC, National Library, Calcutta and Documentation Unit pf IASLIC provide literature search services at national level. Document supply service is provided by SSDC to researchers all over India. Supporting documentation activities like compilation of union catalogues and directories of research institutions and organisations have also been taken up by SSDC.

6 DATA SERVICES

Since 1950's centres for collection and classification of data or data banks have been set up on a large scale. Most of these are located in the industrialised countries like United States and operate on world wide level. Telecommunications provide access to the information held by

them. In India, considerable statistical data is being continuously produced in the government departments, industries, university departments and research institutes. But no concerted effort has been made to keep track of this data and to make it available for future use. Sociological Research Unit of the Indian Statistical Institute in 1968 surveyed ongoing empirical research in India for the purpose of establishing an inventory of empirical data. The programme continued during 1969-1970. ICSSR Data Archives Unit collects data generated during research projects financed by ICSSR and also from other research organisations and maintains it in machine readable form. National Informatics Centre, Delhi is also doing useful work in this direction. It has developed 150 data bases for various Govt of India organisations. Other research institutes active in the area are SENDOC, Hyderabad, National Council of Applied Economic Research, Delhi and Small Industries Development Organisation, Delhi. Central Government also proposes to set up Statistical Data Bank during VIth Plan for storing data generated by various ministries and departments. We however need a good number of them which will cover statistical data, R & D activities, status of R & D abroad and country profiles management.

7 ARCHIVAL CENTRES

Old manuscripts as also age old published material have great value in social science research as compared to the natural sciences. Special efforts are therefore required to locate, preserve and disseminate information about the availability of such material to increase their use. National Library, Calcutta, National Archives, New Delhi, Nehru Memorial and Museum Library, Delhi; Khuda Baksh Oriental Public Library, Patna and Rampur Raza Library are few excellent centres which maintain old manuscripts, personal letters, diaries and speeches and taped records of oral history. Catalogues exclusively fors uch material are brought out by them.

8 REPOSITORY CENTRES

Library is a growing organism. There is constant inflow of new publications. Unless some system is devised to identify less used material and to arrange for their preservation separately from the active material, there is every likelihood of limited space available to it clogged with such material, leaving no space for functional activities and services. One way out tried in some of the western countries is to set up 'Repository Centres', inviting libraries to deposit their non-active material with provision to recall it at any time. Catalogues of holdings of these centres are circulated among other libraries to provide access to the material by a large number of clientelle. In India, SSDC-ICSSR in collaboration with Jawaharlal

Nehru University took initiative and set up Inter-Library Resources Centre at Delhi. So far 38 libraries have deposited about one lakh volumes of periodicals and other material of serial nature. Of course a lot more is desired to keep this Centre running efficiently.

9 CLEARING HOUSE CENTRES

A large number of research material in serial and non-serial form is continuously weeded out by libraries on account of it being duplicate, stray or less used. But the same material may be required by other libraries, information and community centres where it could be profitably used. For instance, large number of discarded costly periodicals if transferred to rural libraries, can be used by rural folk who otherwise would not have been able to read such journals, or even get exposed to them. To meet this situation, dormitories or clearing houses which act as collection and distributing centres for such material are required to be set up. No such clearing house centre has so far been established which could put to use this material in a fruitful way, although SSDC has been trying in a very limited way to do this.

10 NATIONAL CENTRE FOR SOCIAL SCIENCE PERIODICALS

There are about 20,000 periodicals in social sciences being published throughout the world. Due to exorbitant publishing cost, it is not possible for libraries to subscribe to all the desired journals. An alternative is to have one centralised agency which should receive maximum number of journals and provide photocopies of the desired articles to the researchers. There is no such centre at present working in the country. SSDC backed up by ILRC deposit collection and subscription to most of the current Indian social science journals alongwith both Indian and foreign Information Science journals has been fulfilling needs of research scholars in a limited way for periodical articles.

11 LIBRARY COLLECTION

Social science research material identified in the libraries may be categorised as (*a*) books, (*b*) periodicals, (*c*) newspapers, (*d*) research reports including doctoral theses and government reports, (*e*) working papers, (*f*) old manuscripts and private records of scholars and statesmen, (*g*) oral records and (*h*) visual material like maps, charts, posters, slides, etc.

An analysis of the books and periodical stock of about 200 libraries reported in ICSSR Survey of Social Science Research indicates that 60% of the libraries have a book collection of upto 5,000 titles and 90% of them receive around 200 current periodicals.

Some libraries specialise in particular form of literature, e g SSDC has a sizeable number of Ph D theses, research project reports and backfiles of serials in its ILRC collection; NMML has newspaper files of pre-independence period, oral records containing interviews with eminent persons and a large number of photographs relating to modern to Indian history; SENDOC specialises in reports on small industries, and Bhandarkar Oriental Research Institute in manuscripts.

Some libraries have special collection of publications of national and international bodies e g Central Secretariat Library—Govt of India publications; Parliament Library—publications of Govts of India, Canada and USA, and parliamentary debates of different countries; INC Library and NCAER Library—Unesco publications; Indian Institute of Public Administration Library—Publications of Economic Development Institute of IBRD; National Council of Applied Economic Research—World Bank publications; and Ministry of External Affairs Library—Treaty and International Agreement Series (US Dept of Commerce), Command Papers (HMSO London) and UN official documents.

12 FINANCIAL SUPPORT

As the research libraries work as constituent units of their parent bodies, they have to manage themselves within financial resources allocated by the parent body. It is generally opined that the institutes should spend 5% to 10% of their total budget on library services, but in practice, expenditure generally incurred is from 1% to 5%, as is evident from the statement showing expenditure on selected libraries/documentation centres (Annexure II). Even this does not present the complete picture as the tabulated libraries are financed by topmost research centres in the country. The financial health of most of the other research libraries is, however, still worse.

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The need for professionally trained manpower for running an institution is well recognised and a library is no exception to it. Thanks to educational infrastructure developed in the country, majority of the research libraries are now looked after by trained information personnel. Some of the information scientists in India have won worldwide fame and hold important positions in international organisations. No census to assess the total number of qualified personnel working in the research libraries has so far been made. Society for Information Science, Delhi, is now engaged in compiling a register of information scientists in India. It is, however, felt that majority of professionals are well versed in library procedures of conventional nature. With the advent of breath taking informa-

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Asiatic Society of Bombay Library, Bombay	1804	2,05,579
Bhandarkar Oriental Research Institute Library, Pune	1917	40,000
Heras Institute of Indian History and Culture Library, Bombay	1926	21,000
National Archives of India, Delhi	1891	2,00,000
Nehru Memorial Museum and Library, Delhi	1967	80,000

Annexure I (*contd. on p* 140)

Annexure I (*contd. from p.* 139)

1	2	3
Linguistics		
Central Institute of Indian Languages Library, Mysore	1869	30,000
Government Central Pedagogical Institute Library, Allahabad	1948	70,000
Management		
Indian Institute of Management Library, Calcutta	1961	72,297
Indian Institute of Management Library, Ahmedabad	1962	88,526
Motilal Nehru Institute of Research and Business Administration Library, Allahabad	1965	32,023
Political Science		
Gokhale Institute of Politics and Economics Library, Pune	1930	1,72,975
Gokhale Institute of Public Affairs Library, Bangalore	1945	40,000
Institute of Constitutional and Parliamentary Studies Library, Delhi	1965	12,000
Institute for Defence Studies and Analysis Library, Delhi	1965	17,225
Psychology		
B M Institute Mental Health Library, Ahmedabad	1951	5,700
National Institute of Mental Health and Neurosciences Library, Bengalore	1954	15,000

Annexure I (*contd. on p.* 141)

Annexure I (*contd. from p.* 140)

1	*2*	*3*
Public Administration		
Administrative Staff College of India Library, Hyderabad	1957	40,000
Administrative Training Institute Library, Mysore	1967	20,000
Indian Institute of Public Administration Library, Delhi	1954	1,32,981
The H C M State Institute of Public Administration Library, Jaipur	1957	24,000
Social Sciences		
A N Sinha Institute of Social Studies Library, Patna	1953	17,969
Indian Institute of Advanced Study Library, Simla	1965	66,000
Indian School of Social Sciences Library, Trivandrum	1967	15,000
Tata Institute of Social Sciences Library, Bombay	1936	33,404
Sociology		
Indian Institute of Mass Communication Library and Documentation Centre, Delhi	1965	10,400
Institute for Social and Economic Change Library, Bangalore	1972	25,000
Vidya Bhawan Rural Institute Library, Udaipur	1956	22,000
Xavier Institute of Social Service Library, Ranchi	1955	75,000
Town and Country Planning		
School of Planning and Architecture Library, Delhi	1972	12,389
Statistics		
Indian Statistical Institute Library, Calcutta	1932	1,50,000

Note : University and Government Department libraries have been excluded.

ANNEXTURE II

Expenditure on Selected Libraries/Documentation Centres by Social Science Institutions during 1977-78

Sl. No.	*Name of the Institution*	*Total Expenditure (Planned)* (in Rs Lakh)	*Percent of the Total Budget*
1	*2*	*3*	*4*
1	Centre for Development Studies, Trivandram	523.00	38
2	Centre for the Study of Developing. Studies, Delhi	30.00	3
3	Indian Institute of Public Administration, Delhi	216.00	4.8
4	Institute of Applied Manpower Research, Delhi	84.00	2.9
5	Institute of Criminology and Forensic Sciences, Delhi	35.00	4.3
6	Institute for Defence Studies and Analyses, Delhi	182.79	15.4
7	Institute for Social and Economic Change, Bangalore	116.26	3.8
8	Madras Institute of Development Studies, Madras	22.63	15
9	National Institute of Public Cooperation and Child Development, Delhi	40.00	2
10	National Institute of Public Finance and Policy, Delhi	59.07	6.34
11	National Institute of Urban Affairs, New Delhi	21.44	11.94
12	National Labour Institute, New Delhi	23.00	0.83
13	Social Science Documentation Centre, New Delhi	823.00	4

Source : ICSSR. Survey of Financing of social science research in India, 1974/75-1977/78.

TOWARDS A NATIONAL POLICY FOR LIBRARY AND INFORMATION SCIENCE EDUCATION AND MANPOWER DEVELOPMENT

AMITABHA CHATTERJEE

1 INTRODUCTION

Library and information services play a very vital role in the overall national development. Creation of libraries and information centres is as essential for this purpose as development of suitable manpower to run their services. Unfortunately, both the growth of libraries and information centres and manpower development in this field have been haphazard in our country as neither any definite policy has been pursued nor proper planning has been made in this regard. It is, therefore, necessary that a national policy for library and information services is formulated as early as possible with the national policy for library and information science education and manpower development as an integral part of it so as to ensure a balanced development in all fields of library and information services.

2 LIBRARY EDUCATION

The prevailing situation in our country in the field of library and information science education, which is the basis of manpower development for library and information services, may be summarised as follows :

1 The total number of library schools run by universities is now more than 50, besides a good number of schools run by library associations and other organisations for undergraduate level courses;
2 most of the library schools are ill-equipped from the point of view of number of teaching staff, library, workshop facilities, etc.;
3 there are wide variations in syllabuses of various schools and the courses are not oriented to meet the Indian conditions and the requirements in various types of libraries;

4 the students hardly face any real-life situation before taking up employment;
5 several library schools still conduct their courses in traditional manner and no effort is made to incorporate new ideas and new techniques;
6 there are wide variations in teaching methods, standards and techniques;
7 there is no parity in admission procedure, duration, evaluation system and examination system;
8 in many cases persons without any professional experience are recruited as teachers of the professional courses; and
9 there is little scope for in-service training and refresher courses.

This situation has been reviewed at various seminars and by UGC teams and measures suggested, but they have been more ignored than adopted with the result that there has been a big rise in trained manpower quantitatively, with quality definitely going down.

3 EMPLOYMENT SITUATION

If the manpower for library and information services has developed quantitatively, the job opportunities have also grown considerably with the setting up of more and more libraries in recent years. But at present it is difficult to provide a definite picture of the demand and supply position of manpower. Nevertheless, from all available indications it seems that the number of persons being trained is far more than the requirement. The number of trained personnel registered with employment exchanges awaiting recruitment will corroborate this view. The condition has gone to such an extent that persons holding master degrees in library and information science are now accepting the jobs of semi-skilled workers.

4 OBJECTIVES

Decline in the quality of training and devaluation or humiliation of the professional degrees in the employment market due to adverse demand and supply position are harmful for any profession. It is more so in our profession which is yet to establish itself on the same footing as that of medical or legal profession. The national policy should, therefore, be so framed as to ensure maintenance of a minimum quality of training and balance between demand and supply of manpower. This will pave the way for healthy growth of the profession and help avoid national wastage.

5 PREREQUISITE

Before formulating the policy for library and information science education and manpower development it is extremely necessary that a comprehensive survey is made of the following :

1 The infrastructure so far developed for training of library and information workers;
2 the number of persons being trained at different levels annually;
3 the number of existing vacancies and the average number of new vacancies being created annually; and
4 the specialisations in training required in various types of organisations.

Such a survey will clearly bring out the defficiencies in the existing infrastructure, lacuna in training and the demand and supply position of manpower. This will help in framing the policy in such a way as to achieve the twin aims as stated in section 4.

6 WORK DONE

It may be pointed out that some preliminary work has already been done towards formulation of a national policy. Raja Rammohun Roy Library Foundation, which is devoted to the development of public libraries in the country, has recently circulated a draft entitled 'National Policy on Library and Information System', which also touches on library and information science education, though briefly. Recommendations in this regard have been made by several seminars, conferences as well in the country during the past 15-20 years. However, as these suggestions are not obviously based on actual data in the absence of a comprehensive survey as suggested, they have a chance to prove infructuous wholly of partly.

7 ROLE OF ILA

The Indian Library Association, which is the representative body of the Indian library profession, should, in the circumstances, take the lead in conducting the survey, with the assistance of the Government of India and the University Grants Commission and in collaboration with all the associations and organisations connected with the library and information services and then embark upon formulating a need-based and real-situation-policy.

8 IMPORTANT ISSUES

While finalising the policy with regard to library and information

science education and manpower development, the following important issues and recommendations may be kept in view by the Association:

1 library and information science education should be conducted at five levels—certificate, bachelor, Master, M Phil and Ph D—and no other intermediate level, with clearly defined objectives;
2 different institutions and organisations should be identified for conducting different types of courses and only they should be allowed to conduct the courses;
3 universities conducting higher-level courses should have fulfledged departments of library and information science with full-time head and full-time teachers and other facilities as per UGC norms;
4 similarly, other organisations conducting library and information science courses should have minimum infrastructure required;
5 there should be a minimum standard and parity in duration of the courses, syllabuses, method of examination, physical facilities, teacher-student ratio, etc;
6 admission to library schools should be on the basis of a uniform policy based not only on educational background but also the aptitude for library and information work;
7 all courses below master degree level should have a bias on practical training;
8 to maintain a minimum standard at every library school, an accrediting body in the pattern of Indian Medical Council should be set up;
9 library and information science courses being professional in nature, private examination, correspondence or open university courses and private coaching should be totally prohibited;
10 the training should be oriented to the exact nature of requirements in Indian libraries; special courses may be introduced to train personnel required in different types of libraries and information centres;
11 each trainee should undergo a minimum period of practical training in any recognised institution as an intern or apprentice before being granted the certificate of the degree obtained;
12 the number of seats in library schools should be restricted to actual requirement;
13 to assess the manpower requirement a survey should be conducted at regular intervals which will clearly identify the number, nature and levels of personnel required. Till such a survey is conducted opening of new course should not be allowed;
14 no teacher should be selected on the basis of qualification alone as library and information science courses are professional courses. A candidate's aptitude, teaching ability and experience of practical

work should also be considered for this purpose;

15 In-service training, workshops, seminars and refresher courses should be conducted on regular basis so as to provide opportunities to the library and information workers for professional development; and

16 a separate institution should be set up for bibliographical control of library and information science literature, formulation of norms and standards and conducting research in library and information science and work.

A COMPARATIVE STUDY OF SUBSCRIPTION OF PERIODICALS PUBLISHED, IN INDIA, UK AND USA

K. NAVALANI
KARAM SINGH

1 INTRODUCTION

Periodicals are vital for any research work. These are the basic media through which scientific community in the world communicates and shares knowledge. They are one of the most important tools through which scientists keep themselves abreast of the happenings in the world of scientific research. Hence, every university/research library subscribes to journals to meet the needs of its clientele.

Of late, the prices of documents acquired in libraries are rising faster for various reasons. Add to this, problem of inflation rate due to increase in exchange rate of foreign currency. Rupee has seen devaluations.

The impact of this inflationary spiral has been most obvious, constant and consistent in the area of periodical publications. Besides the number of new journals is ever increasing. An equally strenuous effort has to be made by the libraries in avoiding the subscription of new journals. Even if there are no changes in the number of subscription of journals, the percentage of materials budget spent on journals continues to rise. Therefore, it is of utmost importance to university librarians, authorities and all those who are concerned with periodical literature to pay attention to this problem. Some studies in this regard have been made in foreign countries. But precious little has been reported from India.

Periodical section of a university/research library in India faces three problems relating to subscription to periodicals, viz :

(i) ever increasing subscription rate of periodicals;
(ii) devaluation of rupee, and fluctuations in exchange rate of foreign currencies; and
(iii) ever increasing number of periodicals.

This paper addresses itself to the first problem only.

2 COVERAGE

(i) The study covers a period of ten years—starting from 1974 to 1983.

(ii) Further, the study restricts itself to the journals subscribed to by Punjabi University Library, Patiala. The library at present subscribes to 777 journals. Its annual subscription bill for the year 1983-84 was to the tune of rupees nine lakhs, approximately, whereas in 1974, the library subscribed to 495 periodicals and spent an amount of Rs 1,38,397.

(iii) The decade has seen some cancellations, some additions in the number of periodicals being subscribed to by the library. Only those periodicals, which are being subscribed to regularly for the period under study are included here.

(iv) Most of the periodicals subscribed to by university libraries are of foreign origin, particularly of two countries, viz, USA and UK. Hence, the study is limited to trend in subscription rate of periodicals published in three countries : India, UK and USA.

(v) Out of 777 journals subscribed to by the university at present, only 229 periodicals of the three countries were subscribed to for the decade under review.

3 METHODOLOGY

The university library maintains a record of subscription of each periodical it subscribes to in the currency of the country of its origin. The subscription rate of the periodicals for the period under review has been noted from those records. Wherever, there was lacuna in some year, the rate has been checked with the records of the Punjab University Library, Chandigarh, the Post-Graduate Institute of Medical Research, Chandigarh, etc.

4 ANALYSIS

Tables 1A, 1B and 1C give a list of periodicals countrywise along with their rates of subscription yearwise for the decade from 1974 to 1983, as also the increase rate in subscription during the decade, keeping 1974 as the base year, at the end.

Out of these 229 journals, 60 journals are published from India, 53 from UK and 116 from USA.

Table 1A : List of Journals Showing Subscription Rates in Rupees for the Years 1974 to 1983 and Hike in the Rates in 1983 over 1974 in Sciences, Social Sciences and Humanities in India

S No	*Name of Journal*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*Difference in subscription rate between 1974 and 1983*	*Hike times*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1	Africa Diary	120	150	150	150	150	150	150	150	150	150	30	1.25
2	Asian Recorder	135	135	135	150	150	150	165	165	195	195	60	1.44
3	Gandhi Marg	7.50	7.50	12	12	30	30	30	30	30	40	32.50	5.33
4	Marg	84	84	84	84	100	100	120	120	160	160	76	1.90
5	Herald of Lib Science	40	40	44	47	49	54	64	72	85	115	75	2.87
6	IASLIC Bulletin	35	35	50	50	50	50	50	50	50	80	45	1.28
7	Current Science	48	84	84	84	84	84	84	125	125	125	77	2.60
8	Indian Society of Agriculture Stat Jr	25	36	36	36	36	50	50	75	75	80	55	3.20
9	Indian Statistical Assoc Journal	40	40	40	40	40	40	40	40	40	60	20	1.50
10	Geographical Research Bulletin	60	60	60	60	90	90	90	90	185	185	125	3.08

11	Man in India	15	25	25	25	25	25	35	35	50	50	35	3.33
12	Indian Academy of Sciences Proceedings	50	50	50	50	50	75	75	75	75	75	25	1.50
13	Indian Farmer Digest	12	12	14	14	14	14	14	14	14	14	2	1.17
14	Indian Forester	30	40	40	40	40	40	50	80	80	100	70	3.33
15	Indian Pyhtopathology	60	60	60	80	80	80	100	100	100	100	40	1.66
16	Nucleus	77	78	78	79	80	105	115	120	165	165	88	2.14
17	Phytomorphology	48	65	65	65	65	65	65	65	65	65	17	1.35
18	Deccan Geographer	20	20	20	20	20	20	30	30	30	40	20	2.00
19	Bengal Past and Present	20	30	30	30	30	30	30	30	50	50	30	2.50
20	Quarterly Review of Historical Studies	20	20	20	30	30	30	30	30	30	40	20	2.00
21	Administrative Change	15	20	20	20	20	20	20	30	25	30	15	2.00
22	Indian Jr of Pol Sc	25	35	35	35	35	35	50	50	50	50	25	2.00
23	Agricultural Situation in India	48	48	48	48	48	48	48	48	48	48	00	0.00
24	Artha Vijanana	25	25	25	30	30	50	50	50	50	90	65	3.60
25	Economic and Political Weekly	75	75	76	95	95	95	95	125	125	150	75	2.00
26	Indian Eco and Social History Review	30	60	60	60	70	86	86	86	136	150	120	5.00
27	Indian Co-operative Review	10	10	20	20	20	20	20	20	20	20	10	2.00

Table 1A (*contd. on page* 392)

Table 1 (*contd. from page* 391)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
28	Indian Economic Jr	30	30	40	40	40	40	40	60	60	80	50	2.66
29	Indian Jr of Agricultural Economics	40	40	45	45	45	45	90	90	90	90	50	2.25
30	Indian Labour Jr	48	48	75	75	75	99	99	99	126	126	78	2.62
31	RBI Bulletin	28.25	50	50	50	50	50	80	90	105	115	86.75	4.07
32	Indian Management	40	40	40	40	40	20	40	60	60	60	20	1.50
33	Lok Udyog	30	30	30	30	30	30	30	40	40	40	10	1.33
34	Management Accountant	18	30	50	50	50	50	50	75	75	75	57	4.16
35	Contribution to Indian Sociology	25	40	40	40	45	55	55	65	85.50	95	70	3.80
36	Indian Jr of Social Work	27.50	30	30	30	30	30	30	45	50	50	22.50	1.81
37	Sociological Bulletin	20	30	30	30	30	30	30	30	40	40	20	2.00
38	Educational Review	10	10	10	10	10	10	10	15	15	20	10	2.00
39	Indian Educational Review	10	10	10	18	18	18	18	18	26	26	16	2.60
40	All India Reporter	201.45	264.85	266.65	273.90	275.65	264.55	280	347.65	352	426	224.55	2.11
41	Indian Journal of International Law	42	42	42	50	50	50	50	50	50	50	8	1.19
42	Labour Law Journal	36	45	50	50	50	50	75	75	90	90	54	2.50
43	Uchtam Nayaylya Nirnya Patrika	45	65	120	120	120	120	120	120	120	120	75	2.66
44	Vikrant	30	30	30	30	30	30	30	55	85	85	55	2.83

45	USI Jr	20	40	40	40	40		40	40	40	40	20	2.00
46	Purnam	18	18	30	30	30	30	30	30	30	50	32	2.77
47	Shodh Patrika	10	10	10	10	10	10	15	15	15	15	5	1.50
48	VVI Jr	20	20	20	20	40	40	40	40	40	40	20	2.00
49	International Jr of Dravadian Linguistics	25	37.50	37.50	37.50	37.50	37.50	37.50	25	50	50	25	2.00
50	Darshana International	20	30	30	30	30	30	30	30	30	30	10	1.50
51	Islam Aur Asri-Jadeed	15	15	15	15	15	15	15	15	15	15	00	0.00
52	Islamic Culture	25	30	30	30	30	30	30	30	30	45	20	1.80
53	Mountain Path	6	6	10	10	10	10	10	10	15	15	9	2.50
54	Prabudha Bharta	8	10	10	10	10	10	12	12	15	15	7	1.87
55	Rama Krishna Mission Bulletin	12	12	12	12	12	12	12	12	18	18	6	1.50
56	Shiva Sidhanta	5	5	5	5	5	6	6	10	10	10	5	2.0
57	Vedvani	9	10	10	10	10	10	10	10	12	12	3	1.33
58	Vishva Jyoti	9	12	12	18	18	18	18	18	18	24	15	2.66
59	Philosophy	15	18	18	18	18	19	21	25	25	25	10	1.66
60	Indian Philosophical Quar	15	15	15	15	15	25	25	40	40	40	25	2.66
	TOTAL	2,087.70	2,467.85	2,644.15	2,746.40	2,830.15	2,995.15	3,234.50	3,501.65	4,131.50	4,459		

Table 1B : List of Journals Showing Subscription Rates in Pounds for the Years 1974 to 1983 and Hike in the Rates in 1983 over 1974 in the Subjects of Sciences, Social Sciences and Humanities of UK

S No	*Name of Journal*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*Difference in subscription rate between 1974 and 1983*	*Hike times*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1	Keesings Contemoprary Archives	16.85	21	21	50	45	50	60	70	77	80	63.15	4.74
2	British Printer	5	5	5	5	8.40	14.95	15	15	28	28	23	5.60
3	Nature	22	27.50	35	35	35	35	95	130	150	173	151	7.86
4	New Scientist	9.75	11.95	17.70	17.70	22.87	22.90	25.60	25.60	39	49	39.25	5.02
5	Quarterly Journal of Mechanics and Appl Math	7	11	18	22	24.50	24.50	27	33	35	35	28	5.0
6	Quarterly Journal of Mathematics	8	11	18	22	22	22	24	28	32	34	26	4.25
7	Biometrika	6	6.50	8.50	8.50	11.38	12.50	13.50	15.50	19.50	23.50	17.50	3.61
8	Royal Statistical Soc Journal A and B	14	16.50	20	27.05	27.05	26	31	32	34	37	23	2.64
9	Current Paper in Physics	14	20	20	25	45	60	65	80	90	98	84	7.00
10	Physics Abstracts	145	165	220	285	285	4	470	565	635	690	545	4.75

11	Annals of Human Genetics	12	15	15	15	16	18	23	30	34	37.50	25.50	3.12
12	Journal of Medical Genetics	6.50	9	20	20	20	20	21	25	27	34	27.50	5.23
13	British Journal of Nutrition	22	28	40	40	50	50	70	80	88	90	68	4.09
14	Fern Gazette	2	3	5	5	5	5	5	8	8	8	6	4.0
15	New Phytologist	20	30	42	46	50	55	88.50	105	105	120	100	6.0
16	Annals of Botany	18.25	18.25	28.45	32.50	42.75	53.56	54.10	81.90	82	90	71.75	4.93
17	Helminthological Abstracts	14	25	25	25	32.67	51	82	95	109	115	101	8.21
18	Biology Review	8	10	12.50	12.50	12.50	16	16	24	28	32	24	4.0
19	British Journal of Psychology	12	15	20	20	23	25.97	35	42	47	51	39	4.25
20	British Jr of Education Psychology	4	4	6	8	8	10	12	12	12	15	11	3.75
21	Geography	3.55	3.55	7	7	7.34	10.96	11	11	16.60	16.60	13.05	4.67
22	Geographical Journal	6.30	10	10	12	12	12	20	20	20	20	13.70	3.17
23	Historical Journal	9	12	17	19	23	23	28	35	38.50	42	33	4.66
24	Royal United Services Institution Journal	4	8	8	8	10	10	12	14	30	30	26	7.50
25	Economic History Review	5.25	5.25	5.25	5.25	8	8.99	12	12	12	14	8.75	2.66
26	Economic Journal	7.50	12	16	20	22.50	22.50	29	29	33	39	31.50	5.2

Table 1B (*contd. on page* 396)

Table 1B (*contd. from page* 395)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
27	Economist	21	28	28	28	38	38	50	50	57	57	36	2.71
28	Journal of Development Studies	6	12	16	20	23.96	24	30	36	44	48	42	8.00
29	National Institute of Economic Review	6	6	10	12	14	17.96	18	35	35	35	29	5.83
30	Oxford Agrarian Studies	4.50	4.50	4.50	4.50	4.50	5	5.50	5.50	6	6	1.50	1.33
31	Oxford Economic Papers	4.50	6	10	12	13	14	14	20	23	29	24.50	6.44
32	Review of Economic Studies	6	9	14	15	17	19	23	27	29	30	24	5.00
33	Soviet Studies	2,63	6	6	6	10	14.78	15	15	20	20	17.37	7.60
34	World Agricultural Economics and Rural Sociology Abstracts	9	15	20	24	27	37	64	80	95	100	91	11.11
35	Management Today	9	15	15	20	15	19	20	20	25	30	21	3.33
36	Marketing	6	6	10	10	12	12	15	40	55	55	49	9.16
37	British Jr of Sociology	5	7.50	9	10	10.99	12	16	19.50	21	26	21	5.20
38	Journal of Peasant Studies	7	10.50	15	18	18	22	27.50	32	36	42	35	6.00
39	International and Comparative Law Quarterly	6.50	11	11.30	11.30	17.30	17.25	17.25	23	25	25	18.41	3.79

40	Cambridge Law Journal	4	5	5	7	7	10	10	14	14	14	10	3.50
41	Critical Quarterly	2.40	3.50	4	4	4	6	6	7.50	10	13.50	11.10	5.62
42	Drama	1.20	1.20	1.20	2	2	3	3	3	5	5	3.80	4.16
43	Encounter	4.95	4.95	6.75	8	10.57	11.98	13	13	17	17	14.05	3.43
44	English	2	3	4	6.40	8	8.50	9.50	12	15	15	13	7.50
45	Essays in Criticism	3	3	4	4	5.50	5.50	7.50	7	11	11	8	3.66
46	New Statesman	8.50	8.50	9.50	9.50	13.96	15.98	18.50	25	29	40	31.50	4.70
47	Notes and Querries	5	6	7.50	9	11	11.40	14	17.50	22	22	17	4.40
48	Religious studies	8.50	10.50	15.50	18.50	21	22	26	32	35	38	29.50	4.47
49	School of Oriental and African Studies Bulletin	12.75	15	15	15	21	40	40	30	30	33	20.25	2.58
50	Middleway	1.50	1.60	1.60	2	2	2	3.40	3.00	6	6	4.50	4.00
51	Mind	1.25	2.50	4.80	7	7.92	8	10	10	10	14.50	13.25	11.60
52	Philosophy	4	6.50	8.50	14	14	14	19	23	40	44	40	11.00
53	British Journal of Aesthetics	3	6	7.50	7.50	11	12	13	15	20	21	18	7.0
	TOTAL	557.14	720.75	919.05	1,087.20	1,230.02	1,512.18	1,842.85	2,233.40	2,555.60	2,797.20		

Table 1C : List of Journals Showing Subscription Rate in Dollars for Years from 1974 to 1983 and Hike in Price in Times in the Subjects of Sciences, Social Sciences and Humanities of USA

S No	*Name of Journal*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*Difference of subscription between 1974 and 1983*	*Hike in times*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
1	Cumulative Book Index	165	165	165	235	235	235	275	275	290	310	145	1.87
2	College and Research Library	15	15	15	15	25	30	30	30	35	35	10	2.33
3	American Society for Information Science Journals	40	40	50	50	53	53.55	61	67	80	93	53	2.32
4	Library Quarterly	11	15	15	17	17.50	17.50	17.50	26	29	32	21	2.90
5	American Journal of Science	26	43	43	43	45.04	46	57	57	80	90	64	3.46
6	Science	36	48	58	63	77	84.95	93	107	107	112	76	3.11
7	Scientific American	12.50	15	18	22	22	22	22	27	27	27	14.50	2.16

8	American Mathematical Monthly	18	18	25	25	28	28	36	36	50	50	32	2.77
9	American Mathematical Society Proceedings	100	146	176	176	135	165	165	176	206	206	106	2.06
10	American Mathematical Society Bulletin	15.40	18.90	22	22	22	24.20	26	26.40	39	39	23.60	2.53
11	Mathematical Reviews	420	588	750	850	980	1,155	1,182	1,408	1,680	1,880	1,460	4.47
12	Mathematics Magazine	4	4	10	10	11.88	12	18	18	25	25	21	6.25
13	Pacific Journal of Maths	60	72	72	72	72	84	90	102	114	132	72	2.2
14	Siam Review	29	33	37	44	52	52	52	58	64	69	40	2.37
15	American Stat Assoc Journal	25	25	30	30	30	30	30	45	54	59	34	2.36
16	American Statistician	5	8	8	8	8	8	9.50	12	14	16	11	3.2
17	Annals of Probability	25	25	30	30	35	37	40	44	48	55	30	2.2
18	Annals of Statistics	25	25	30	30	35	37	45	50	55	48	23	1.92
19	Biometrics	18	18	18	18	22	29	29	39	39	45	27	2.50

Table 1C (*contd. on page* 400)

Table 1 (*contd. from page* 399)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
20	Astronomical Journal	40	40	55	55	55	60	70	70	95	110	70	2.75
21	Astronomical Society of Pacific Pub	25	25	40	40	40	55	55	55	55	57	32	2.28
22	American Journal of Physics	27	30	41	44	48	47	58	62	68	90	63	3.33
23	IEEE Proceedings	48	48	48	60	60	63	63	80	98	174	126	3.62
24	IEEE Transactions : Communications	48	48	48	60	60	63	63	115	128	141	93	2.93
25	IEEE Consumer Electronics	24	24	24	30	30	32	32	44	52	80	56	3.33
26	Journal of Applied Physics	80	90	100	112	119	121	145	164	260	324	244	4.05
27	Nuclear Data Sheets A + B	78	88.50	105	115.50	138	153	168	182	199	224	146	2.87
28	Physics of Fluids	67	77	89	100	100	101	117	142	232	290	223	4.32
29	Optical Soc of America Jl	54	58	63	69	79	102	102	132	160	180	126	3.33
30	Physical Review A	53	59	65	70.35	77	82	97	112	165	214	161	4.03

31	Physical Review B	106	111	120	140.70	154	180	215	250	372	480	374	4.52
32	Physical Review C	53	59	65	70.35	77	82	97	112	165	213	160	4.01
33	Review of Modern Physics	26	31	41	42	42	53	55	65	95	122	96	4.69
34	Review of Scientific Instruments	33	39.90	48	54	54	55	76	86	140	177	144	5.36
35	Chemical Abstracts	2,427	2,945	3,045	3,045	3,777	3,792	4,620	5,132	5,360	5,995	3,568	2.47
36	Inorganic Chemistry	59	76	102.50	102.50	124	153	169	189	231	298	239	5.05
37	Journal of Organic Chemistry	66	82	112.25	112.25	132	142	148	156	223	223	157	3.37
38	Journal of Physical Chemistry	66	85	102	102	106	139	138	138	198	246	180	3.72
39	American Chem Soc : Journal	72	98	124.75	124.75	151	184	197	222	266	294	222	4.08
40	American Jl of Human Genetics	31	31	31	31.50	32	31.70	32	47.50	47.50	80	49	2.58
41	Biological Abstracts	880	891	891	1,071	1,134	1,215	1,315	1,700	1,835	2,150	1,270	2.44
42	Human Biology	15.75	15.75	15.75	20	20.75	20.75	24	24	25	25	9.25	1.58

Table 1C (*contd. on page* 402)

Table 1C (*contd. from page* 401)

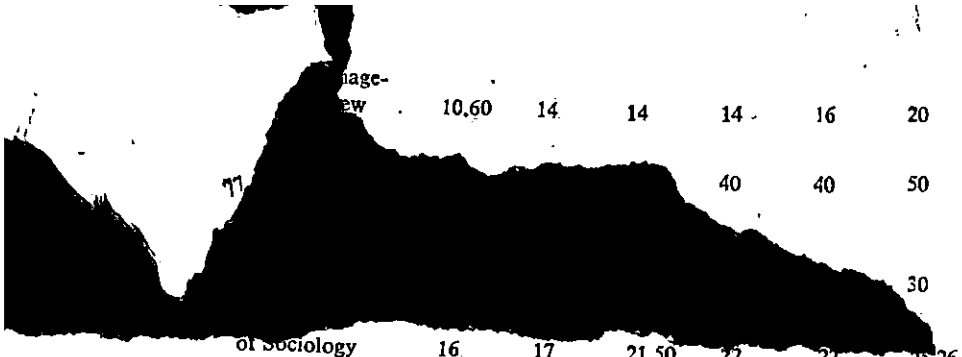
1	2	3	4	5	6	7	8	9	10	11	12	13	14
43	Botanical Gazette	21	21	21	25.50	25.50	25.26	31.50	45	59	64	43	3.04
44	Botanical Review	15	18	18	18	20.49	20.32	24	25	28	33	18	2.20
45	Bulletin Tory Botanical Club	13	14	18	18	18	18	23	34	33	38	25	2.92
46	Bryologist	27	27	27	27	27	37	37	37	47	45	18	1.66
47	Evolution	17	25	25	25	30	40	40	40	40	40	23	2.35
48	Phytology	53	63	66	66	76	85.96	86	112	135	150	97	2.83
49	Annals of Entomological Soc, America	26	32	36.50	36.50	36.50	38.50	38.50	44	66	70	44	2.69
50	Journal of Parasitology	27	35	35	40	45	45	45	45	45	45	18	1.66
51	Annals of Assoc of Am Geographer	17	24	24	26	30	30	30	30	35	35	18	2.05
52	Geographical Reviews	17.50	30	30	35	35	45	45	45	45	45	27.50	2.57
53	Jr of Geography	16	18	18	20	20	22	25	25	30	30	14	1.87
54	Professional Geographers	8.50	12	12	12	19	19	19	19	22	28	19.50	3.29

55	Current History	10.59	12.75	15	15	16	18	18.25	20.35	21.50	22	11.41	2.07
56	Journal of History of Ideas	10.50	13.75	13.75	16	16	18.92	19.50	21.50	23	28	17.50	2.66
57	American Political Science Review	35	52	52	55	55	53	53	53	79	79	44	2.25
58	Foreign Affairs	10	10	12	14	14	17.85	21	21	22	28	18	2.80
59	Political Science Quarterly	15	19	20	24	24	24	26	26	28	28	13	1.86
60	American Economic Review	31.50	34.50	40	41.25	43.05	44.10	44.10	105	109.20	109.20	77.70	3.46
61	Econometrica	25	31	34	34	35	35	41	50	50	53	28	2.12
62	Economic Development and Cultural Change	16	17	21	21.50	21.50	25.26	25.50	37	42	43.50	27.50	2.71
63	International Economic Review	25	29	29	29	35	46	55	55	55	60	35	2.40
64	Journal of Finance	17.50	17.50	17.50	25	25	35	35	35	35	40	22.50	2.28
65	Journal of Political Economy	21	21	21.50	26	26	28.73	29	32.50	49	54.50	33.50	2.59
66	Land Economics	20	20	21.50	21	25	27	31	31	38	38	18	1.90

Table 1C (*contd. on page* 404)

Table 1C (*contd. from page* 403)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
67	National Tax Journal	15	15	15	20	20	20	20	20	30	40	25	2.66
68	Academy of Management Journal	20	20	20	20	20	20	28	28	28	28	8	1.40
69	Accounting Review	10	15	25	25	25	25	25	25	25	25	15	2.50
70	Advanced Management Journal	9	14	14	14	15	14.87	15	15	19	19	10	2.11
71	California Management Review	15	15	15	15	20	20	20	20	20	35	20	2.33
72	Financial Analyst Journal	14	18	18	26	22.10	26	26	39	39	39	25	2.78
73	Financial Executive	13.70	13.70	17	17	17	17	17	17	24	31	17.30	2.26
74	Industrial Relations	6	8	10	13	13	13	13	13	13	13	7	2.16
75	Management Science	32	32	32	32	40	40	40	50	71	71	39	2.21
76	Operational Research	25	40	45	93	99	100	124.86	150	170	190	165	7.50



	...iage- ...ew	10.60	14	14	14	16	20	21	26	36	47	36.40	4.43
	...				40	40	50	50	50	50	50	20	1.66
							30	30	36	36	59	29	1.96
	of Sociology	16	17	21.50	22	22	25.26	26	42.50	50	60	44	3.75
81	Asian Survey	19	22	22	22	26.80	29.80	29.80	39.30	52	59.50	40.50	3.13
82	Current Anthropology	15	21	21	21	17.50	21	25	25	30	50	35	3.33
83	American Jr of International Law	30	30	36	36	36	40.95	47	52	54	54	24	1.80
84	American Jr of Comparative Law	12	15	15	15	15	15	16.50	15	16.60	22	10	1.83
85	Cornell Law Review	10	10.50	13.70	13.70	13.70	17.50	17.50	17.50	21	21	11	2.10
86	Harvard Law Review	13.50	16.50	16.50	16.50	28.50	28.50	28.50	28	32	32	18.50	2.37

Table 1C (*contd. on page* 406)

Table 1C (*contd. from page 405*)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
87	Law and Contemporary Problems	13	18	18	18	23.80	22.80	24	36	38.50	38.50	25.50	2.96
88	Journal of Air Law and Commerce	13	13	13	17	17	20	23	22.50	22.50	25.50	12.50	1.96
89	Army	10	12	12	12	13	13	17	17	21	21	11	2.10
90	Military Affairs	15	15	15	15	19.80	25.78	28	28	35	35	20	2.33
91	Military Review	7.50	7.50	10	9.90	9.90	14	14	14	16	16	8.50	2.13
92	American Literature	8	8	12	13	13	14.88	16	18	18	21	13	2.62
93	American Scholar	7.25	7.25	7.25	7.25	8.67	8.67	8.75	11	12	12.60	5.35	1.73
							.50	26.50	31.50	31.50	39	26	3.0
							11	13	13	16	15	6	1.66
					2.50	12.50	12.50	12.50	12.50	20	20	7.50	1.6
99	P	5	5	6	8	8	12	12	12	15	15	10	3.0
	iction	11	13	13	13	13	13	13	16	22	22	11	2.0
		25	25	25	30	34.95	35	45	52	52	60	35	2.40

100	Sewanee Review	9	9	9	11	11	12.87	13	13	17	17	8	1.88
101	Shakespeare Quarterly	12	15	15	15	15	15	18	27	27	41	29	3.41
102	Victorian Studies	12	12	12	15	15	15	15	15	21	21	9	1.75
103	Virginia Quarterly Review	8	8	8	8	8	7.93	8	11	11	11	3	1.37
104	Yale Review	9	9	13	13	13	13.48	14	14	21	21	12	2.33
105	General Linguistics	13.50	13.50	13.50	13.50	13.50	21	21	22	22	26	12.50	1.92
106	International Journal of American Linguistics	8	17	17	25.50	21.50	31.20	31.50	42	47	57	49	7.12
107	Language	25	25	40	25	40	40	50	65	65	65	40	2.60
108	Language Learning	6	6	8	8	8	8	13	13	17	35	29	5.83
109	American Academy of Religion Jr	15	15	20	25	40	30	25	25	35	55	40	3.66
110	American Oriental Society Jr	25.88	25.88	34.50	34.50	36.25	36.16	36	39	39	39	13.12	1.50

Table 1C (*contd. on page* 408)

Table 1C (*contd. from page 407*)

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*
111	Harvard Theological Review	9	11	12	12	8	12	14	25	25	28	19	3.11
112	History of Religion	13	15	17	21.50	21.50	21.50	21.50	30	38	42	29	3.29
113	Journal of Near Eastern Studies	11	17	17	17	17.50	25.20	25.20	32	42	42	31	3.41
114	Journal of Religion	11	15	17	17	17.50	21.30	21.50	24	32	32	21	2.90
115	Journal of Philosophy	13	13	17	17	17	16.84	17.50	20	24	24	11	1.84
116	Review of Metaphysics	15	15	15	15	17.82	18	19.70	20	24	30	15	2.0
	TOTAL	6,634.37	7,777.58	8,474.95	9,188.20	10,273.48	11,023.86	12,401.16	14,313.05	16,295.20	18,588.30		

Their break up according to three subjects, is as follows :

Sciences	85
Social Sciences	86
Humanities	58
TOTAL	229

Keeping the year 1974 as the base year, the hike in range in subscription rate of periodicals in the three countries in their respective currencies subjectwise is as under :

Country	*Sciences*	*Social Sciences*	*Humanities*	*All*
India	1.16 to 5.33 times	00 to 5.00 times	00 to 2.83 times	00 to 5.33 times
UK	2.64 to 8.21 times	1.33 to 11.11 times	3.43 to 11.60 times	1.33 to 11.60 times
USA	1.54 to 6.25 times	1.40 to 7.60 times	1.37 to 3.41 times	1.37 to 7,60 times

The subjectwise break up of average subscription rate of periodicals is given in Table 2. A glance at the table shows that increase in the average subscription rate of journals in sciences (5.06 times) and social sciences (5.002 times) in UK is almost the same. Next comes humanities (4.82 times).

In USA, the lead in increase in average subscription rate of periodicals is taken by sciences (2.84 times) followed by social sciences (2.56 times). The average subscription rate of humanities is at the bottom of the list (2.54 times).

As against UK and USA, in India the case is reverse. Increase in average subscription rate of periodicals in social sciences tops the list (2.31 times), followed by humanities (2.01 times), and sciences (1.98 times).

Though the rise in the average subscription rate is constant in the three countries during the decade (except a meagre decrease in average price of journals in India in the year 1977 (see Table 2, Fig. 2.) yet the increase in percentage of subscription rate (see Table 3) varies from year to year in the three countries. However, the peak in percentage of rise in the subscription rate of the three countries is the same in 1975 (see Fig. 1). It may be of interest to note here that Kapoor etc[1] in their study of rising trends in subscription of journals of three subjects viz Chemistry, Economics and English language also reported 1975 as the peak year for increase in percentage of subscription rate.

The increase in the percentage of subscription of periodicals during

Table 2 : Comparative Statement of Average Subscription Rate of Journals in the Three Subjects : Sciences, Social Sciences and Humanities of Three Countries—India, UK and USA From 1974 to 1983

	1974	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*Increase in times*
INDIA											
Sciences											
No of Jls 17											
Cost—Rs	886.50	1,001.50	1,027.00	1,066.00	1,133.00	1,202.00	1,297.00	1,306.00	1,694.00	1,759.00	
Average	52.14	58.91	60.41	62.70	66.64	70.70	76.29	76.82	99.64	103.47	1.98
Social Sciences											
No of Jls 26											
Cost—Rs	939.20	1,147.85	1,282.65	1,339.90	1,356.65	1,440.65	1,556.00	1,778.65	1,949.50	2,171.00	
Average	36.12	44.14	49.33	51.53	52.17	55.40	59.84	68.40	74.98	83.50	2.31
Humanities											
No of Jls 17											
Cost—Rs	262.00	318.50	334.50	340.50	340.50	352.50	381.50	417.00	488.00	529.00	
Average	15.41	18.73	19.67	20.02	20.02	20.73	22.44	24.52	28.70	31.11	2.01
No of Jls 60											
Total Cost—Rs	2,087.70	2,467.85	2,644.15	2,746.40	2,830.15	2,995.15	3,234.50	3,501.65	4,131.50	4,459.00	
Average	34.79	41.13	44.06	45.77	47.16	49.91	53.90	58.36	68.85	74.31	2.13
UK											
Sciences											
No of Jls 18											
Cost—£	350.35	433.70	571.15	693.25	755.08	966.41	1,185.70	1,443.00	1,620.50	1,773.50	
Average	19.46	24.09	31.73	38.51	41.94	53.68	65.87	80.16	90.02	98.52	5.06

Social Sciences											
No of Jls 22											
Cost—£	148.74	201.30	263.05	287.05	343.09	385.41	474.25	592.00	694.10	744.20	
Average	6.76	9.15	11.95	13.04	15.59	17.51	21.55	26.90	31.55	33.82	5.02
Humanities											
No of Jls 13											
Cost—£	58.05	75.75	84.85	106.90	131.85	160.36	182.90	198.40	241.00	279.50	
Average	4.46	5.82	6.52	8.22	10.14	12.33	14.06	15.26	18.53	21.50	4.82
No of Jls 53											
Total Cost £	557.14	720.75	919.05	1,087.20	1,230.02	1,512.18	1,842.85	2,233.40	2,555.60	2,797.20	
Average	10.51	13.59	17.34	20.51	23.22	28.53	34.77	42.13	48.20	52.77	5.02
USA											
Sciences											
No of Jls 50											
Cost—$	5,627.65	6,606.25	7,194.75	7,787.90	8,792.53	9,386.79	10.659.00	12,272.90	13,958.50	15,995.00	
Average $	112.55	132.12	143.89	155.75	175.85	187.73	213.18	245.45	279.17	319.90	2.84
Social Sciences											
No of Jls 38											
Cost—$	667.89	799.20	854.95	954.95	1,016.95	1,105.27	1,184.51	1,373.15	1,561.20	1,730.70	
Average $	17.55	21.03	22.49	25.13	26.76	29.08	31.17	36.13	41.08	45.54	2.56
Humanities											
No of Jls 28											
Cost—$	338.63	372.13	425.25	445.35	464.00	531.80	557.65	667.00	775.50	862.60	
Average $	12.09	13.29	15.18	15.90	16.57	18.99	19.91	23.82	27.69	30.80	2.54
No of Jls 116											
Total Cost—$	6,634.37	7,777.58	8,474.95	9,188.20	10,273.48	11,023.86	12.401.16	14,313.05	16,295.20	18,588.30	
Average $	57.19	67.04	73.05	79.20	88.56	95.03	106.90	123.38	140.47	160.24	2.08

Table 3 : Comparative Statement Showing Increase in Percentage of Subscription Rates of Journals over Previous Year from 1974-1983

	1974	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*Total Percentage increase over 1974 as base year*
India											
Total Cost Rs	2,087.70	2,467.85	2,644.15	2,746.40	2,830.15	2,995.15	3,234.50	3,501,65	4,131.50	4,459.00	
Percent increase over previous year		18.20	7.14	3.86	3.04	5.83	7.99	8.25	17.98	7.92	113.58
UK											
Total Cost £	557.14	720.75	919.05	1,087.20	1,230.02	1,512.18	1,842.85	2,233.40	2,555.60	2,797.20	
Percent increase over previous year		29.36	27.51	18.24	13.20	22.86	21.82	21.19	14.42	9.45	402.06
USA											
Total Cost $	6,634.37	7,777.58	8,474.95	9,188.20	10,273.48	11,023.86	12,401.16	14,313.05	16,295.20	18,588.30	
Percent increase over previous year		17.24	8.96	8.41	11.81	7.30	12.49	15.29	13.43	14.07	180.18

the decade under study (see Table 3, Fig. 1) of the UK was the highest (402.6%), USA occupies the second place (180.18%) and India the third (113.58%).

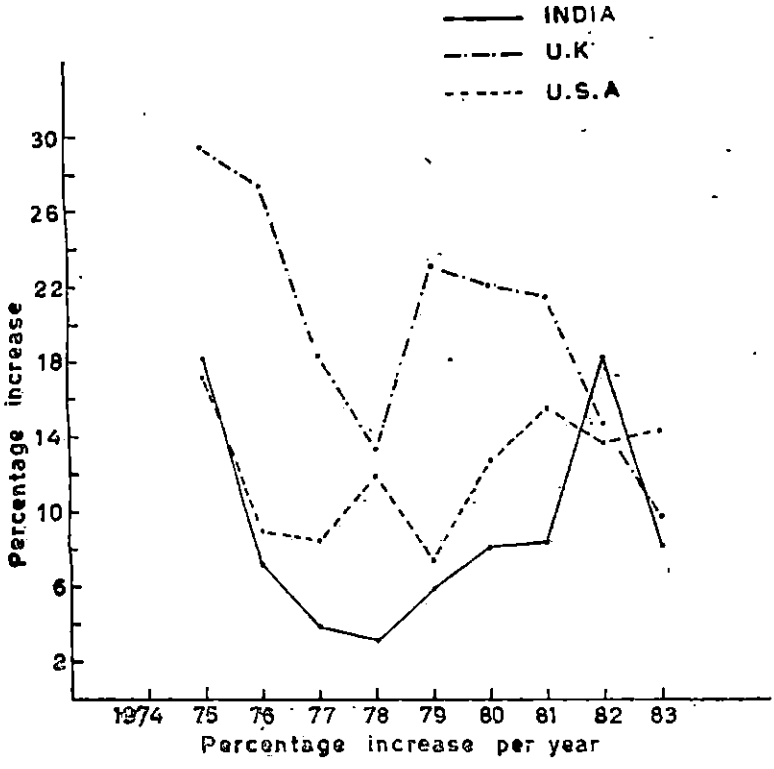


Fig. 1.

5 DISCUSSION AND CONCLUSION

During the past decade, prices of periodicals rose at a much faster rate, in the three countries, under study.

According to the data collected by this study, the average price of journal in UK was £ 10.51 in 1974, and it rose to £ 52.77 in 1983, i e an increase of almost five times. The average subscription rate of journals published in USA in 1974 was $ 57.19 and it went upto $ 160.24 in 1983 or a hike of 2.80 fold in price. On the other hand, in India, the average cost of a periodical was Rs 34.79 in 1974 and it doubled by 1983—Rs 74.31. Though the cost of subscription rate of periodicals is rapidly escalating in the three countries, yet the rate of increase is not uniform. It is surprising to note that the rise in the average price of journals from UK is almost double than that of USA and four times that of India.

It may be reiterated that this study his confined itself to only one of

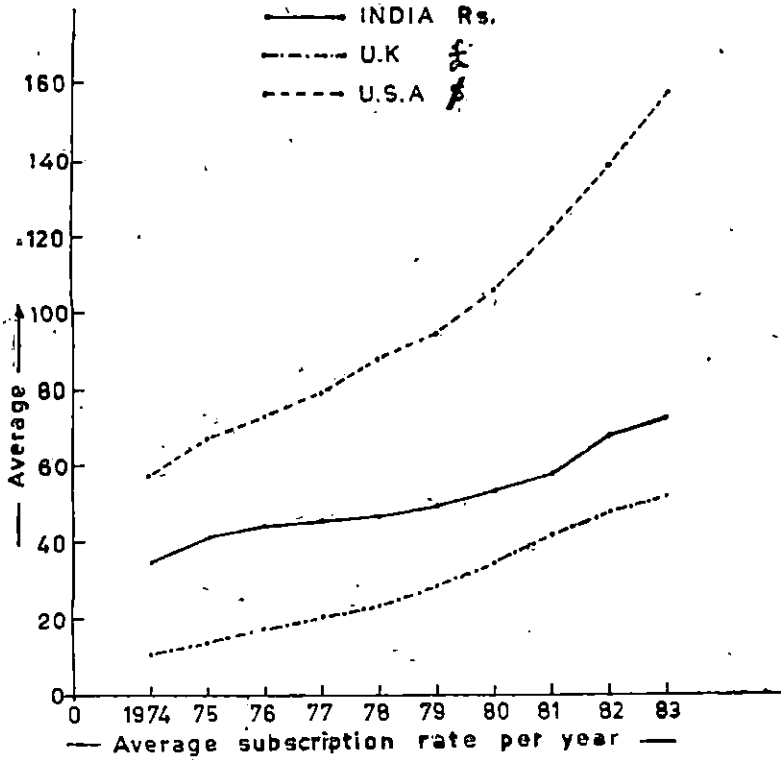


Fig. 2

the problems of rise in price of periodicals, i e, rise in price of journals in their respective currencies. The Indian librarian is confronted with other problems of rise in price of periodicals viz devaluation of rupee and fluctuating and unstable international currency exchange rate.

Besides, there are some psychological problems in this regard. Most of the librarians, as we know, harbour protective feelings toward periodical subscriptions, after striving for years to maintain a complete run of a journal title. They are, therefore, reluctant to surrender that title and instead choose to let the book budget suffer in favour of the long life of the periodical or purchase of back volumes of periodicals. And it will have very serious implications on already meagre book collection of the Indian university libraries, which in turn will have repercussion on our teaching and research.

Not only that, this weakness of librarians for periodical holdings has been used by publishers to their advantage by increase in price of journals, as Richard De Gennaro[2] rightly pointed out.

The ever increasing rise in prices of periodicals as also cut backs in the

budgets of libraries have forced some libraries to cancel subscription of journals. A number of reports in foreign countries (e g Brennan[3], 1977; Carrein[4], 1977) have appeared on cancellation of journals by university libraries. It is, therefore, compellingly necessary that the university libraries in India should also devote attention to this crying problem of rise in subscription of periodicals.

6 SUGGESTION

In future it is not likely that materials budget will grow by quantum of leaps, and the financial increase, if any received by the Indian university libraries will be insufficient for subscribing to the same number of periodicals. University libraries in India cannot afford to have usually standing commitments for periodicals as in the past, for diminishing funds are available for the purchase of books and other materials, and serial purchases constitute a major element in the cost of building collection. Hence, most of the university libraries commitments will need to adjust to the amount of funds available locally. Keeping all the facts in view, it is suggested that :

1 University libraries need to have better data on periodical purchases.
2 It is of vital importance to establish what is absolutely necessary for teaching and research in this regard in a university library. Therefore, study of use of periodicals acquired by a university library is of utmost importance.
3 Allocations need to respond more to the local priorities of teaching and research. Therefore, there should be a system of reviewing annually periodicals in general, and expensive periodicals in particular.
4. Libraries will also need to create more realistic expectations of service from their clientele. It is, therefore, necessary to make aware and educate academic staff of financial realities so as to prepare them to modify their demands on their university library and to accept a policy of planned insufficiency.
5 The impact of paucity of resources can be to some extent counteracted by sensible area planning by university libraries in India. So, it is necessary to have some degree of reliance on co-operation.
6 Further, it is also essential to build up national resources by establishing a national periodical library. Alternatively, the INSDOC and ICSSR should function as national periodical libraries in their respective fields, and give access to any periodical required by any student or researcher in any field in the country.
7 India is a vast country. Therefore, it may not be possible for one

national periodical library or centre to cater to some immediate needs of researchers. Therefore, one of the university libraries in a region or one university library in every state may be designated as a regional/state periodical centre. The selected library may get more grants for subscribing to more periodical publications to serve the regional/state demands of academicians.

8 Periodicals are the life blood for research and study purpose in university libraries. As compared to university libraries in the the West, acquisition of periodicals by Indian university libraries is meagre. Even those libraries which want to continue only the same number of periodicals will have to spend two to five times the amount which they were spending in 1974 as this study shows. And for most of the university libraries in India, it may be a luxury or wishful thinking. The picture is very dismal. Therefore, this study suggests that the University Grants Commission should come to the rescue of university libraries in India by providing funds annually for subscribing to journals which are bare minimum for any study and research in a subject. Further the funds should be increased automatically on the basis of rise in percentage of price in the country and devaluation.

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ALLOCATION OF BOOK FUNDS TO DIFFERENT DEPARTMENTS OF UNIVERSITIES IN INDIA

S M SHAFI

1 INTRODUCTION

A good amount of literature has been produced on estimation and allocation of finances for libraries but one important aspect or sub-process of it has been paid comparatively a little attention by the subject experts and that too especially in our country. It is the distribution of book funds among different departments, faculties or disciplines. Since librarians themselves have been calling for a scientific principle for every process, therefore, it is a high time to discuss the problems and come up with certain solution(s). The present paper is an attempt to review its relevance to collection development, brief account of past or present procedures, criteria for distribution and a brief description of some important formulae.

2 ALLOCATION v/s NON-ALLOCATION

There have been many objections to the allocation of book budget to the academic departments by some experts on the ground "that the departmental allocation is passing from the scene due to greater affluence in book funds, more competent staff to avoid red tape and acquirement of book across the whole range of disciplines".[1] Besides many other objections have been raised as listed below:

(i) It requires a great deal of time to prepare a scientific basis for distribution and it becomes worsened by constant revision.[2]

(ii) It has been observed that some departments get much more money than they are able to spend or vice versa, with the result allocation leads to waste of money.

(iii) It becomes difficult to convince any department that its allotment

may be reduced and it is therefore equally difficult to increase the allocation unless more money is made available in the form of ad-hoc grants.

(iv) Allocation and consequant expenditure of one year may become basis for the next year's allocation irrespective of many changes in curriculum, user population etc.

(v) Book-keeping may make it a cumbersome and clerical job, thereby wasting valuable work hours used otherwise in more important works.

These objections seem to be justified in a peculiar situation in which an academic library has not much control over its book funds but it can't hold true in every situation especially in a developing country like India. However, the allocation becomes necessary due to following factors:

(i) The allocation becomes necessary as funds are not ample to cover all reasonable requests. It has been observed that UGC has not provided the grants to libraries as per recommendations of different commissions from time to time[3] and therefore, all Indian academic libraries have to opt for allocation so as to control their budget in a proper way.

(ii) A balanced collection can be attributed to only a well-planned distribution of book budget and this will definitely vary due to diverse background, interest and ambition of different libraries.

(iii) The allocation of book funds is a means of avoiding the monopoly of funds by a few departments. In fact, Jasper G Schad[4] says that allocation of book funds in academic libraries originated principally as a device to control powerful departments and prevent them from monopolising funds.

(iv) It has been observed that Indian libraries face a very severe problem i e dwindling budgets[5] for books irrespective of the taking into account literature explosion and expensive cost of publications. The scientific literature doubles after every ten years in scientific publications[6] and average cost of American books has tripled within a decade[7] when periodicals have become more expensive. Such inflation in publications requires more funds to meet demands of every discipline but in view of dwindling budgets it is only the allocation which could meet demands equally.

(v) Some Western scholars hold the view that allocation is not necessary where librarian has gained the confidence of faculty which could be strengthened further by publicity[8] but it does not seem to me working atleast in our country.

(vi) It has been observed that some universities have allowed departments to purchase books directly[9] without any significant role by the library. In such institutions ceiling is to be set necessarily so as to avoid any chaos and confusion, at the end of the financial year which in other words calls for book grant allocation.

3 PRESENT STATUS

Regarding current status of allocation of book grants by various institutions in our country, the literature is not available and therefore invites for a survey to be carried out on a large scale. However, in most of the universities the funds are allocated either by the Library Committee or Vice-Chancellor appoints a small committee of Deans[10] with himself as Chairman or delegating his powers to a senior professor. Some institutions don't allocate funds and leave it to discretion of the Vice-Chancellor and the Librarian. But all such practices are not based on any sound scientific footing except that respective Head of the Deptt is representing the interest of his department arbitrarily. In such procedures it is the strong and influential person who is able to get more share for his department and usurping the justified share of other genuine departments. Many times, in such committees, last year's expenditure/allocation is taken as a yardstick to distribute grants for the next year which is also unfair. It has been observed that many times Vice-Chancellor uses his powers to distribute funds equally among all departments just to absolve himself of the malice created by rivalry of different departments. All such practices are subjective in nature and will not help in balanced collection development of our higher institutions.

4 TOWARDS FORMULAE

There has been many attempts towards developing formulae which may help in allocating funds objectively and research still continues. I am taking a brief account of different formulae which have been developed during the recent half of this century but not a single formula has been evolved which may be used everywhere mainly due to different and changing programmes of the institutions. However, if the task in this direction continues, we may be optimistic, that a time will come when a perfect formula will be developed.

McGrath, Hutsinger and Barba[11] came out with an allocation formula in 1969 which is based on factor analysis. They have taken into account 43 variables which have been fed into a multiple correlation computer programme. After eliminating 21 variables, a matrix of 22 variables was derived. Then from matrix fractional values of some chosen factors are to be added upto the value of 1. Thus the allocation for a department is being computed on basis of added values of the variables for that department as a fraction of the added values of the variables for all departments.

The method does not make any provision for the prices, level of acquisition and areas of special interest. But such variables can be taken care of if more work is done on it. However, difficulty with the formula is collection of circulation and citation data, for being a cumbersome job to be carried out on a regular basis.

S K Goyal[12] proposed a formula in 1973 based on Operations Research. It assumed that importance of a department is a measure of social benefit per unit of the amount spent on purchase of books and periodicals in that department.

The importance (CI) is expressed as follows:

$$Ci = f(Si + Ti + Oi) = \frac{(Si + Ti)}{2},$$

where Si = importance which society attaches to the work of the department; and Oi = importance due to the size of the department which depends on the number of students.

It has not given any importance to the price of books, circulation or any curriculum changes. The problem with the formula is that Goyal didn't describe the modality for deriving numerical values for variables of his formula especially of social nature.

William McGath[13] demonstrated his method in 1975 in an article which is based on book use and book prices. He hypothesises that demand should determine what library buys and demand in turn can be determined by the use of library consequently. This formula has the problem too that it is dependant on circulation data, besides taking no cognisance of other important factors. Then R J Welwood[14] put forward a formula in 1977 based on enrolment, circulation and courses offered weighing each factor as 40 percent, 30 percent, and 30 percent respectively. The formula, he then derives as follows:

Enrolment by deptt, divided by total enrolment times weight for enrolment (the enrolment can be further derived according to level of courses) run by the department:

Circulation by deptt : / Total circulation	Times	Wt for circulation
Courses by deptt : / Total courses	Times	Wt for courses

The values for these variables are to be added so as to obtain the total units for each department. Then the cost is derived by multiplying total units with the average cost of books in the field of each department. Finally, the allocation is made by using the formula :

Unit cost by deptt : / Total unit cost for all deptts	Times	Total book budget

This formula seems to be appropriate in many respects though it has

not taken any view of strength of existing collections, alternative reading resources and growth of literature etc but such variables can be also added to obtain the total units for any particular department.

However, main difficulty is that there is no objective method to give weightage to each variable for which more work needs to be done.

Besides these important contributions, Steven D Gold[15] employs the method of the number of student credit hours in an academic department when Thomas J Pierce[16] stresses on the size of departments, local availability of resources, subject characteristics or library orientation of disciplines and relative price of materials. The most recent contribution in this direction is William McPherson's[17] article in 1983 describing therein a formula for distributing monograph funds that was developed at a medium size university library by a committee of subject specialists working closely with other bibliographers. The formula besides relying on a combination of objective data and professional judgement it employs literature approach to the allocation process. Procedural innovations have been made not only in the means of establishing the amount and the cost of materials but also in the manner of using these figures to calculate specific allotments. The author himself points out three limitations i e non-provision for programmes of high priority, focus on current literature but ignoring the out-of-print and antiquarian titles and most important disadvantage is that of being it a mixture of objective data and subjective Judgement employed in procedures rendering the accuracy of results questionable.

5 CRITERIA OR BASIS FOR ALLOCATION

All the above formulae suffer from one or the other problem but one thing common to them is that they are based on certain criteria. Therefore it is important to draw out these criteria which may be useful for further work in the direction of evolving a more perfect formula and provide guidelines to an institution to distribute book grants more objectively. These criteria may vary from institution to institution due to their different set up, ambition and interest. Besides, these criteria for allocation of funds for publications must take into account institution's policy on collection development. A collection development policy should provide a direction and scope for collection development efforts. It should spell out the aim, objective, functions and mode of operation of acquisition deptt but unfortunately not all university libraries in India have written or well drawn collection development policy. It happens that there is no control over acquisitions in various disciplines taught in universities because of the lack of subject specialists. There is existing imbalance in may subjects. Some disciplines are poorly represented even though they are started earlier and even more unpleasant situation is that most of the collection remains unused as Gidwani[18] has rightfully alarmed the situation that " . . . at

majority of places Indian university libraries have developed a collection wherein 90 percent of the book stock remains unused."

However, the important criteria can be grouped as under.

5.1 User Population

The number of users is an important factor for determining the fund allocation to any faculty. The users may be of different levels i e students, research scholars and staff. Whereas our master degree level students are using mainly tertiary information sources, the research scholars and teachers consult mainly primary and secondary sources.

A correlation between growth of student population and growth of collection has been identified and ACRL[19] has proposed a guide that an institution with 600 students should have atleast 50,000 volumes and for every additional 200 students 10,000 volumes but such guides have to be looked from the Indian point of view which is still passing through a phase of under-development. However, requirement of book to different categories can be also worked out by taking into account issuing practice to different categories and assuming that all may have maximum number in their possession. To be realistic, I am afraid, if such will be ever possible due to dwindling budget and inflations. However, it may definitely give a relative proportion. Regarding optimum number of periodicals, Randall[20] suggests that it can be determined on basis of 1.5-2 journals per borrower.

5.2 Prices of Publications

Prices of the publications are inflating day after day and prices for different types of publications are different. Periodicals are more expensive than text books and their ranges of inflation are also different. Between 1967 and 1969 the average price of US hard covers was $ 8.77 while that of periodical was $ 8.66. However, in 1979 the average prices were $ 23.96 and $ 30.37 respectively.[21] The prices of periodicals of different disciplines also vary. Periodicals in physics and chemistry are most expensive. Keeping average price of periodicals in view and their importance to scientific community, authorities are obliged to allocate more funds for periodicals than books and Randall[22] has suggested that expenditure on journals should be two or three times the book budget was warranted. The prices of books in different disciplines and in different countries vary. American[23] hardcover books in sciences cost approximately 70 percent more than history, biography and travel. German scientific texts run however about 170 percent more than historical and geographical counterparts while the analogous rates for British books is even higher by 180 percent.

5.3 Growth Rate of Collections

A growth rate of 10 percent is believed to be ideal. Randall[24] suggests that the annual accessions for special libraries should be 6-10 percent of the total number of books in the collection of an established library in order to keep the library on the current side of obsolescence. This standard also seems to be workable in academic libraries because at an annual increase of 6 percent the total collection would be replaced or doubled in 15 years and in 10 years at an annual growth rate of 10 percent. Such a growth rate would be ideal in case of sciences and social sciences where the rate of obsolescence is very high but in case of humanities such a growth rate could be much lower.

5.4 Curriculum

The number of departments and their sizes, courses offered by them have to be taken into account. There are some departments, mostly in social sciences which enrol much and more students as compared to science faculties. Therefore, they may need multiple copies of text books. It could be also affected by the method of instruction and examination pattern prevalent in the department/university. If the department is offering advance course and is instructing through seminar assignments and other modern methods, naturally less number of text books will be required. New programme by an institution or a department may require special grants to establish basic library in that particular discipline.

5.5 Strength of Existing Collection

To make the collection to growth in the right way, strength and weakness of the existing collections have to be taken into account which requires that a survey after every 2-3 years may be conducted to find out the relative strength etc. It has been noted that a long established department lacks many important treatises and books either for non-availability of specialists in that deptt or due to lack of proper collection development policy. Therefore it is obligatory on the part of the librarian to find out weaker areas and invite proper attention towards them.

5.6 Circulation

Circulation statistics is an important source to find out the use and demand of reading materials in specific disciplines. It is also very important to give it a proper weightage in the collection development policy and hence will mainly affect book grant allocation.

5.7 Growth of Literature

The growth of literature is tremendous in this century but it varies

from discipline to discipline. In humanities there is no such rapid growth as in case of sciences or social science. Funds are to be allocated in a manner that each discipline may be in a position to keep itself up to date with the current publishing materials. However it is neither possible nor desirable to procure every item published but it needs a skilful selection to provide maximum with the least amount provided for purchase of books to users in the department.

5.8 Alternative Reading Resources

The growth of literature is very high when the budgets are not sufficient to meet all the needs but most of demands in many disciplines can be met by the neighbouring libraries. There are many such instances in our country where two institutions are placed hardly at a distance of few kilometres but they don't use each others resources. Such factors can be taken into view while allocating funds to such disciplines or departments after proper surveys.

Gopinath[25] (M A) has also spelled out some eleven factors for collection development which are useful to our present study and most of them are coinciding with the criteria laid down above to a large extent. However such criteria such as financial constraints and its consequences, possible additions needed to collection, possible fluctuations in the budget, additions of documents which would enhance collection potential intellectual value, availability of space, optimum size of effective collection, identification and assessment of resources having programmes and their impact on institutional libraries have not been covered in my discussion above which I feel can be best taken care of while framing a collection development policy.

6 CONCLUSION

The existing formulae are no perfect solution to our problem. However work in this direction may evolve a more fruitful formula some day. At the same time the norms have to be analysed, verified and a precise weight is to be allotted to each and every standard norm so as to utilize them for allocating book funds in an objective way. This will only ensure a well balanced collection development in our academic libraries.

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ALLOCATION OF DOCUMENT FUNDS IN A UNIVERSITY LIBRARY : A CASE STUDY

R C PATIL
C R KARISIDDAPPA

1 INTRODUCTION

The classic statement regarding position of the university library, and on which has deservedly been quoted again and again is that made by the Radhakrishnan Commission (1948) that "the library is heart of the Institution" from which all the activities will radiate and get irradiated. The basic entities of any library are books, brain and building. The heart of the library lies in its collections. One of the most serious problems that exists today in the university library is collection development.

A Chinese adage says "learning is like sailing against the tide; if you don't advance, you retreat". This is aptly applicable in the context of library collection building. A representative collection both in quantity and quality if not properly and constantly nurtured, will cease to be a live collection. "A collection grows in a myriad of ways. It may grow in the scope of its coverage, and it may grow in the depth of its specialisation; or it may just grow amoeba-like by means of pseudopodia—in this case a mixture of available funds and articulate personal preferences whether from the librarian or others."[1] Size is not synonymous with excellence. Quantity does not always assure quality. Majority of Indian university library-collections grow in an atmosphere of inadequate funds. Utilisation of limited financial resources needs all the administrative skills and intelligence.

2 COLLECTION DEVELOPMENT

According to Mosher (1982), "collection development is the effective and timely selection of library materials forming carefully constructed area or subject collection, shaped over time by bibliographic experts. It

is the synapses linking thousands of decisions into sensitive provision of needed research materials, the capacity to make the parts fit the needed whole."[2] Thus the process of selection and acquisition requires careful handling of limited and inadequate financial resources. The university library has to work out appropriate system of need-based allocation of funds which will optimise its effect on the rising expectations of the users. Mosher (1982) while listing down the functions of collection development, has pointed them out as "developing a materials budget and allocating it in a way that will optimise its effects on the needs and demands of users."[3] It is, therefore, obvious that the university librarian should consider himself as a steward of resources. The purposeful utilisation of funds enhances the excellence of the library in a real sense.

2.1 Allocation of Document Funds

On the question of allocation of funds for documents, there seems to be no common opinion on the methodology adopted. A common agreement is that funds should be equitably distributed to the different disciplines or areas of interests, as allocation should basically be governed by the needs of the users and the type of collection. Muller feels[4] :

1 appointment ensures the obtaining of an evenly distributed and well rounded document collection;
2 there should be active participation by the users; and
3 it provides a safeguard against unreasonable demands.

Bach (1964) on the countrary feels that "these are the very reasons why the librarian has to assume responsibility in expending the document fund, since his experience and knowledge of selection tools, the needs and levels of the clientele and the collection would stand him in a good stead".[5] Schad (1970) also holds a similar view, and observes that "programme budgeting is better than the traditional budgeting which focuses on subjects of expenditures and is marked by attitudes of inertia and control."[6] Many a librarian feels that the procedure of allocation has not effectively contributed towards sound use of funds. The time has come to do something to improve the matters. Nevertheless, allocation can play an important part in the process of collection building. The right solution, it appears, is not to reject allocation procedure, but to replace traditional method with an approach that is not dominated by the influential group. The allocation should focus on the real needs of the collection.

2.2 Need-based Allocation

For purpose of need-based allocation to be followed in university library, the essential points to be considered are as follows :

1 Number and size of the various post-graduate departments on the campus and outside;
2 various academic courses and programmes undertaken by each department;
3 changes in the syllabii;
4 procedure of teaching methodology;
5 type of examination;
6 correspondence/external courses;
7 central and/or departmental libraries; and
8 research projects undertaken.

3 SCOPE OF THE PAPER

Allocation of available document funds subject-wise or department-wise is a commonly accepted practice prevailing in most of the Indian university libraries. An attempt in this paper is made to project and evaluate the procedure adopted while allocating funds at the Karnataka University Library. Ever since the inception of the university library this procedure has been faithfully followed.

4 KARNATAKA UNIVERSITY LIBRARY

Karnataka University (Dharwad) established by the Act 1949 of the then Bombay Legislature came to be inauguarted on 1st March, 1950 as a teaching and affiliating university. The university library having nearly three lakhs of books on its shelves, has adopted open access system. The university with 359 post-graduate teachers is responsible for imparting instructions to 2,792 students on 34 post-graduate departments in various faculties. There are more than *576* research scholars in various disciplines. In the year 1983, the Ph D degrees awarded by the university was 60. There are several research projects undertaken by the faculty members.

4.1 Allocation of UGC Funds for Books

A sum of Rs 13.13 lakhs has been received as grant for purchase of books from the U G C during the VI Plan period i e 1980-81 to 1984-85. This amount has been allocated department/subject-wise the proposal for which has been presented by the university librarian and has been usually approved by the library advisory committee headed by the Vice-Chancellor, the librarian being its member-secretary.

The librarian naturally has to assess the needs and the demands of the various teaching departments before getting the allocation approved. Appendix I gives the clear picture of the details—the amount allocated to

each department/subject. The Appendix also provides with the number of students, research students and teachers in each department. Since the total amount of Rs 13.13 lakhs is supposed to be spent during the entire plan period, the total number of students, research students and teachers has been worked out for the plan period.

4.2 Major Defects

A quick glance at the figures given in Appendix I would lead one to point out the following major defects :

1 No standard and accepted method has been followed. The specific needs—curriculum, or researchers or users—of the collection building are seldom considered explicitly;
2 there is no relation between the amount allocated and the number of users; and
3 the influence of some departments in getting more money is evident.

Each department's share is worked out from the indirect evidence of need—which is presumably based on the past experience or statistics. Such experience, it may be stated, is not necessarily a reliable guide to calculate current or future needs.

5 FUTURE POLICY

Finance plays an important role in the development of collection building. A balanced or need-based collection depends on a well planned distribution of financial resources. For this purpose it is necessary to evolve some acceptable and feasible standards for allocation of funds.

5.1 Indian Standards

The Radhakrishnan Commission (1948) has recommended that the expenditure on the library should be optimum 6¼ percent of the total budget or Rs 40.00 per student[7]; Kothari Commission (1964) has slightly modified and raised it to 6.5 percent of the total budget or Rs 25.00 per registered student and Rs 300.00 per teacher/research fellow[8]; Ranganathan Committee (1957) on the other hand has reduced this and suggested Rs 15.00 per student and Rs 200.00 per teacher and research fellow[9]. It is needless to add here that neither the UGC grants nor the State Government grant is based on these recommendations.

5.2 Goyal Formula

S K Goyal is of the view that "allocation problems can be answered

by applying operational research techniques."[10] He has suggested a linear programming model :

$$Ci = f(Si, Ti, Oi) = \left(\frac{Si + Ti}{2}\right) \times Oi, \text{ where}$$

Ci = importance of the department;

Si = importance which society attaches to the work of the department;

Ti = importance which the university gives to the work of the department;

Oi = importance due to the size of the department. (This depends on the number of students, researchers and the number of faculty.)

Goyal has described the method of formulation of fund allocation problem :

Let

(1) the number of departments (or subjects) for which the funds are to be allocated for purchase of books and periodicals be 'n';
(2) the total funds available for purchase of books be 'M';
(3) the funds allocated for department 'i' be 'Xi' where i = 1, 2, 3, . . ., n;
(4) the importance of department 'i' be 'Ci', where i = 1, 2, 3, . . . n;
(5) the lower limit and the upper limit of funds as furnished by department 'i' be 'Li' and 'Ui';

The general formulation is to maximize

$$Z = \sum_{1=1}^{n} Ci\ Xi\ 1,$$

where Xi Li 2

Xi Ui 3

$$\sum^{n} Xi \quad M \quad 4$$

and Xi O 5

In actual resource allocation problems there may be other constraints. The additional constraints are described as :

X3 + X4 U34 and

X5 + X6 + X7 L567

It is essential that the problem be formulated correctly after consultations with the departments and the library administrators. It may thus be conveniently said that the operational research approach to this problem will help to standardise departmental formulation of booka nd periodical requirements.

6 FUTURE POLICY

In Indian university libraries there has been no theoretical framework to assist librarian to develop a systematic approach. The concept of scientific budgeting gained wider acceptance not only in business and government but also in the academic institutions. The traditional method of allocating funds according to whims and fancies of individual should be stopped. Books are not collected just for the sake of collecting. One must not be afraid to admit past errors or to change the directions when good judgement so indicates. The methodology of allocation of book fund has to be formulated in a university library after obtaining the following information :

1 knowing the exact needs of the library user—It may be actual and also projected needs;
2 an uptodate and carefully analysed data on the existing collection—an assessment of the strengths and weaknesses of the collection in different areas is to be made;
3 assess the publishing trends for new books, and other reading materials;
4 estimate the possible additions needed for the collection;
5 an estimate of rates of inflation in books, periodical publications and other kinds of documents;
6 considering the financial constraints, identify the priority items or core collections whichr equire continuity in the collection process;
7 addition of new documents which would enhance the colllection's potential intellectual value;
8 addition of the documents to meet the replacement of the loss of wanted documents and torn and worn documents; and
9 availability of space, rate of deterioration of materials, optimum size of the effective collection.

The allocation is done not equally but equitably. The individual library after analysing the above data may be able to finalise a written policy statement.

7 CONCLUSION

It should be realised that questions of allocation of book funds and

of book selection are closely related. Allocation of book funds should not be misused. This controlling device should be carefully and skillfully handled by the university librarian. A definite procedure of allocating should be worked out. The faculty, research students and the university administration should be involved in the process. Allocating proccdure should necessitate the setting up of priorities which in turn requires re-examination of goals and objectives of the collection building. Budget is growing tighter and the demands for library services continue to increase. It has been truely said that the diagnosis is the battle half won. Having recognised the true dimensions of the major problems, it is absolutely necessary to prescribe the effective treatment for the same.

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APPENDIX I

Sl No	Department/ Subject	Students	Teachers	Research Students	Total	Amount
	I Social Sciences					
1	Library Science	193	35	91	319	25,000.00
2	Geography	202	50	101	353	22,000.00
3	History and Archaeology	259	39	102	400	33,000.00
4	Ancient Indian History	259	15	146	420	23,000.00
5	Political Science	537	43	149	729	30,000.00
6	Economics	866	68	90	1,024	32,000.00
7	Commerce	457	27	36	520	22,000.00
8	Management	271	18	62	351	22,000.00
9	Sociology	295	45	72	412	24,000.00
10	Social Work	192	27	24	243	20,000.00
11	Law	36	33	33	102	27,000.00
12	Anthropology	72	34	94	200	29,000.00
13	Journalism	55	5	—	60	28,000.00
14	Gandhiana	111	7	4	122	13,000.00
15	Kannada Research Institute	18	5	28	51	16,000.00
16	Criminology	89	40	10	139	16,000.00
	II Humanities					
1	Music	164	37	10	211	16,000.00
2	English	341	37	112	490	23,000.00
3	Sanskrit	103	29	76	208	17,000.00
4	Hindi	254	33	83	370	17,000.00
5	Marathi	231	8	27	266	16,000.00
6	Urdu and Persian	41	—	29	70	5,000.00

Appendix I (*contd. on p.* 254)

Appendix I (*contd. from p.* 253)

7 Kannada	733	133	331	1,197	20,000.00
8 Linguistics	—	—	—	—	8,000.00
9 Philosophy	42	30	46	118	24,000.00
10 Psychology	158	24	64	246	24,000.00
11 Education	517	33	118	668	18,000.00
12 Physical Education	—	—	—	—	2,000.00
13 Yoga Studies	149	5	—	154	7,000.00
14 Foreign Languages	— 655	— 59	— 40	— 754	10,000.00
III Sciences					
1. Computer Science	—	—	—	—	1,000.00
2. Mathematics	456	45	101	602	51,000.00
3. Statistics	324	63	38	425	56,000.00
4. Physics	496	113	69	678	1,34,000.00
5. Chemistry	677	174	159	1,010	1,34,000.00
6. Geology	356	83	105	544	77,000.00
7. Botany	337	74	81	492	1,09,000.00
8. Zoology	391	85	147	623	1,06,000.00
9. Marine Biology	104	13	27	144	32,000.00
10. Env. Sciences	—	—	—	—	15,000.00

I Social Sciences	— Rs. 3,82,000.00
II Humanities	— Rs. 2,07,000.00
III Sciences	— Rs. 7,24,000.00
	Rs. 13,13,000.00

BIBLIOGRAPHIC CONTROL OF SCIENTIFIC SERIALS WITH SPECIAL REFERENCE TO INDIA—SOME OBSERVATIONS

SHAILENDRA KUMAR

1 INTRODUCTION

Scientific serials are the most important media of primary research communication. These are in the form of journals, transactions, bulletins, proceedings, advances, review, reports etc emanated from learned institutions, government agencies, universities, societies etc. Bibliographic control of scientific serials leads to the better scientific information supply. Catalogues are important and integral part of the bibliographic control system. One of the objectives of the system is to direct the user to the original literature. The catalogues not only achieve this objective via current and continually updated library holdings, information on document suppliers, and publisher/source information, but they also satisfy a variety of other user needs by providing detailed and accurate bibliographic data and by using national and international standards. There should be extensive review of catalogues of current scientific serials entries so that they reflect the latest available information. A continual effort is to be made to keep the library holdings and bibliographic data current. New aspects of the catalogue should include the ISSN (International Standard Serials Number) for a significant portion of serials, the inclusion of holdings for additional libraries and provision of information about major sources (suppliers) of documents for each publication—sources from which documents can be obtained with a high degree of success. In this paper an attempt is made to highlight the scientific serials received by the science libraries in India and their bibliographic control.

2 LIBRARY CATALOGUE

At individual level the bibliographic control of scientific serials mention

the catalogues of the National Libraries in the various disciplines of science and technology in India. In "science and technology and physical and biological sciences" the National Science Library (NSL) of Indian National Scientific Documentation Centre (INSDOC) had built up a good collection of scientific serials in various branches of science and technology. Majority of Indian scientific serials of various disciplines are also acquired. It has on its list 3,218 current serials. It tops in acquisition of serials among the various science libraries in the country. In the field of "medical sciences" the National Medical Library (NML) in Delhi has 1,665 current titles, which accounts for 68.3 percent of the total number of current titles available in the field of medical sciences in the country.

Subject-wise Breakdown of Current Scientific Serials in the Country and its National Libraries

Subject	*Library*	*Number of Serials in India*	
Science and Technology and Physical and Biological Sciences	National Science Library (NSL)	4,974	3,218
Medical Sciences	National Medical Library (NML)	2,437	1,665
Agriculture	Indian Agricultural Research Institute (IARI)	1,613	1,891*
Engineering	Indian Institute of Technology (IIT), Delhi	2,188	1,038

*The number also includes the serials in the allied subjects like biological sciences.

In the field of agriculture the Indian Agricultural Research Institute (IARI) has acquired a status of national library. IARI is at the top in the acquisition of serials in the subject and accounts 1,891 current serials. In engineering the IITs stand first. The IIT at Delhi has 1,632 current serials. It accounts for 74.58 percent of current serials of the total number of current titles available in the field of engineering in the country.

3 UNION CATALOGUES

Various national science libraries together with other science libraries

in India have joined together under the leadership of INSDOC to have Union Catalogue of scientific serials. In this direction INSDOC has already published seventeen volumes in the Union Catalogue series during 1965-78 (Appendix). Recently INSDOC has published "Union List of Current Scientific Serials in India". This Union List records 13,403 current scientific serials being received in 785 libraries as up to the end of 1981. The work is being done to publish the National Union Catalogue of Scientific Serials in India, it will incorporate the holdings data of scientific serials in about 800 libraries in the country.

4 INTERNATIONAL ACTIVITIES

In the field of chemistry the Chemical Abstracts Service Source Index (CASSI) is an International service, which consists of all the useful serials in the subject. The index has approximately 50,000 titles. This time NSL has also sent its library holdings to incorporate in CASSI. INSDOC has been designated to function as the National Centre for the International Serials Data System (ISDS), formalities are still to be gone through to obtain the approval of UNESCO and International Centre for ISDS for becoming a National Member.

4.1 ISDS International Centre, Paris

The aim of the Centre is to create a master data file of all the serials available in the world so as to have complete control on the serials. The Centre publishes regularly 'ISDS Bulletin'. The Centre gets the regular input from the National Centres for ISDS in different parts of the world and incorporates the serial publications from its member countries in its bulletin. Serials in the main text of the bulletin are arranged by International Standard Serials Number (ISSN) in ascending order of the bibliographic details. At end of the bulletin title index, arranged alphabetically followed by ISSN is given.

4.2 ISDS-SEA

International Serials Data System, Regional Centre for Southeast Asia is a centre of joint operation of national ISDS-centres of countries in Southeast Asia. At present there are five members of ISDS-SEA, namely Indonesia, Malaysia, the Phillippines, Singapore and Thailand. The centre was established in 1976, with the purpose of creating and maintaining a regional data bank for information essential for the identification of serials published in the countries of the region. This centre supplies the regional data file to ISDS International Centre. The 'ISDS-SEA Bulletin' is a result of the great efforts made by the five member countries in collection of data on serials published in the above countries using the ISDS and ISSN.

5 LANGUAGE SERIALS

It is worth mentioning the libraries like Indian National Science Academy (INSA), NSL, and Publications and Information Directorate, CSIR (PID). The libraries have collection of current serials in languages other than English. This is because these have many exchange or gift programmes. In a study made by INSDOC it have been found that in Delhi the current scientific serials in English language have accounted for 60.33 percent of the total current serials whereas languages other than English hold 39.56 percent. It has also been noticed that in the English language serials the amount of duplication is the highest. USSR together with East European countries and Japan have least amount of duplication, only 42 and 40 serials respectively. Again this duplication is mainly in English language serials from Japan and East European countries. Duplication of serials in Japanese, Russian and other East European languages is found negligible.

6 INFORMATION ACCESS TOOLS

Besides the Union Catalogues published by INSDOC, there are other tools, which have bibliographic control on the serials as given in the Appendix. There are many lists, catalogues and directories of scientific serials which together control most of the useful serials available in the world (Appendix). Current Serials Received : (1978)—The British Library Lending Division (BLLD). This list contains all serials being received by the BLLD. 1982 list contains about 56,000 titles. Ulrich's International Periodicals Directory covers large number of scientific serials mentioning the sponsors and the publishers of the serials indicating where the serials are being indexed and abstracted. World List of Scientific Periodicals (1900-60) in 3 volumes with supplement of about 59,404 titles. Other important catalogues to mention are New Serials Titles from the Library of Congress covers the period 1950, Chemical Abstracts, Service Source Index 1907-79, 1980 is a specialised service covering all the serials in the field of chemical sciences. Scientific Serials in Australian Libraries covers the period upto 1976 in hard copies. After 1976 it is coming in microform. This catalogue is very authentic, describes the history of the serials in detail.

7 DISCUSSION

India has about 33 percent of the total current scientific serials available in the BLLD. To illustrate, it may be pointed out that Dr D N Wood from 'British Library Lending Division, estimates about 40,000 scientific serials being acquired in the BLLD alone whereas in our case, all libraries taken together account for only 13,403 titles. The scientific serials and

university libraries in India have to strive hard to acquire more number of worthwhile scientific serials. Delhi being the location of NSL, NML, IARI and IIT etc would play an important role in this direction.

The acquisition of scientific serials can be further strengthened by bringing down duplication of serials to a reasonable limit, and by widening the exchange programmes. The institutions like INSA, PID, IARI and NSL etc have potentiality to strengthen their exchange programmes for acquiring more serials in languages other than English published by learned societies, research institutions particularly from USSR, East European countries, China, Japan, and other Asian countries. It may also imply the imperative need for rationalization of acquisition of scientific serials.

INSDOC being a national member of ISDS would play a better role in the international control of scientific serials. What we most require is a continual cooperation from all the science libraries in the country.

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APPENDIX

Information Access Tools of Scientific Serials

Country	*Period Covered*	*Title*	*Arrangement*	*Subject and other Information*
1	*2*	*3*	*4*	*5*
India		Library of Congress—Accession List : India	Monthly publication with Annual cumulation in 3 parts Part 1 : Commercial-languages in alphabetic order with serials under it alphabetically Part 2 : Govt and Quasi-Govt—Serials arranged alphabetically under name of sponsors Part 3 : Subject Index alphabetically	General, Part 3 has alphabetical index at the end

Appendix (*contd. on page* 458)

Appendix (*contd. from page* 457)

1	2	3	4	5
	Earlier to 1976	Directory of Indian Scientific Periodicals-1976	Subject wise alphabetically	Science and Technology; Alphabetical title index at end
	Earlier to 1969	Indian Periodicals: An annotated Guide by N N Gidwani and K Navalani 1969	It is single volume. Entries are arranged by subject alphabetically	General; Alphabetical title index at the end
		INSDOC Union Catalogue Series :	Entries are arranged alphabetically	Science and Technology
		Catalogue of Serials in the National Science Library, Delhi, 1965		Science and Technology
		Catalogue of Serials in the Indian Institute of Science Library, Banglroe, 1966		Science and Technology

Catalogue of Serials in the Indian Statistical Institute Library, Calcutta, 1966	Science and Technology
Catalogue of Serials in the Indian Agricultural Research Institute Library, Delhi, 1967	Agriculture
Regional Union Catalogue of Scientific Serials, Banglore, 1967	Science and Technology
Regional Union Catalogue of Scientific Serials, Delhi Medical Libraries, 1967	Medical Science
Regional Union Catalogue of Scientific Serials, Varanasi, 1968	Science and Technology
Regional Union Catalogue of Scientific Serials, Mysore, 1968	Science and Technology

Appendix (*contd. on page* 460)

Appendix (*contd. from page* 459)

1	2	3	4	5
		Catalogue of Serials in the National Institute of Sciences of India, (INSA) Delhi, 1968		Science and Technology
		Regional Union Catalogue of Scientific Serials, Kerala, 1969		Science and Technology
		Union Catalogue of Serials in the Geological Survery of India Libraries, 1969		Geological Sciences
		Regional Union Catalogue of Scientific Serials, Dehra Dun-Roorkee, 1971		Science and Technology

Regional Union Catalogue of Scientific Serials, Bombay-Poona, 1973		Science and Technology; Computerised publications
Regional Union Catalogue of Scientific Serials, Madras, 1975		
Regional Union Catalogue of Scientific Serials, Hyderabad, 1975		
Regional Union Catalogue of Scientific Serials, Lucknow, 1976		
Regional Union Catalogue of Scientific Serials, West Bengal, 1978		
Union List of Current Scientific Serials in India, 1981		
Press in India	Part II has serials arranged alphabetically under name of States	General, Alphabetical index at the end

Appendix (*contd. on page* 462)

Appendix (*contd. from page* 461)

1	2	3	4	5
United Kingdom	1900-1960	World List of Scientific Periodicals	Alphabetical; 3 Vols. A-E, F-P, Q-Z and Supplement	Science and Technology; titles links by Sr No
	1960	British Union-Catalogue of Periodicals	Alphabetical; 4 Vols A-C, D-K, L-R, S-Z; supplement to 4 Vols, and yearly supplement	General
		Current Serials Received : 1983, The British Library Lending Division	Alphabetical; 1 Vol in 3 parts—titles except for cyrillic, cyrillic titles, cover to cover translation of cyrillic titles	General, Currently available titles
United States and Canada	1907-1979	Chemical Abstracts Service Source Index	Alphabetical by Abbreviated titles	Chemical Seience, quartely issues with annual cumulation
Library of Congress	1950	New Serial Titles	Alphabetical	General; cover period as 1950-70; 1971-75; 1976-80; 1981

Earlier to 1950	Union List of Serials in Libraries of the United States and Canada	Alphabetical; 5 Vols A-B, C-G, H-M, N-R, S-Z	General; useful for old titles
	The Standard Periodical Directory	Classified with class Number; 1 Vol	General; Title index alphabetically arranged at end
	Ulrich's International Periodicals Directory	Subject wise alphabetical; 1 Vol	General; Title index alphabeticlly arranged at the end; cessations given at the end
	Irregular Serials and Annuals : An International Directory	Subject wise alphabetical; 1 Vol	General; Cessations; Title index; ISSN index at the end
	Union List of Scientific Serials in Canadian Libraries	Alphabetical; 2 Vols A-I, J-Z	Science and Technology. Mainly titles are given under sponsors' name; Titles links are given in detail

Appendix (*cotnd. on page* 464)

Appendix (*contd. from page* 463)

1	2	3	4	5
Australia	Earlier to 1976	Scientific Serials in Australian Libraries	Alphabetical; 3 Vols A-F, G-N, O-Z	Science and Technology, 1976 onwards coming in microform, titles are given under their sponsors' name; titles links are given in detail
Japan		Directory of Japanese Scientific Periodicals, 1979	Subject wise alphabetical; 1 Vol	Science and Technology, cover current serials published in Japan, title index at the end. Best source for Japanese serials
		Aglinet Union List of Serials	Alphabetical; 1 Vol	Agriculture; gives ISSN

BOOK PROCUREMENT DELAY : A DEMOTIVATOR TO USER PARTICIPATION IN COLLECTION DEVELOPMENT

M S SRIDHAR

1· INTRODUCTION

In a recent case study[1] it was revealed that 35 percent of total acquisition of books were against specific suggestions of users and only about 21 percent of total users have ever suggested books to ISRO Satellite Centre (ISAC) Library. It was also observed that one of the reasons for such a low participation of users in collection development is book procurement delays. Quick and timely precurement of suggested/on demand books act as achievement motivator for further suggestions from users. On the other hand procurement delays could be dangerous disincentive to the meagre 21 percent of users who are presently participating in collection development activity.

Delays in providing on demand books to users have two major components. Firstly, order processing, classifying, cataloging and other processing delays at library, which mainly depend on the work environment of the library including quantum of work, available trained manpower and efficiency of the staff. Yet at this stage 'Line clear treatment' concept of Dr S R Ranganathan would help to minimise delays in case of suggested/ on demand books. The second type of delays are at the book trade/ suppliers end and this delay is substantially beyond the control of the library.

An attempt is made here to present actual data from ISAC Library to analyse the extent of delays on the part of book suppliers, which is disastrously heading towards discouraging users from participating in collection development. Incidentally the study also hopes to serve as guideline for future book procurement policy.

2 BACKGROUND OF THE DATA

Before analysing the data we should take note of the background of the data in terms of procurement policy of the library and limitations of the data. Supply position of books ordered by ISAC Library during 1983 are analysed as of mid September 1984. Orders for theses and reports, standing orders, orders based on approval books and ready stock announcements are excluded from the study for obvious reasons. Most of the orders were placed on more than a dozen carefully selected fairly known vendors, both Indian and foreign, including exclusive/specialised dealers and direct suppliers. Few orders placed on miscellaneous suppliers are clubbed with direct suppliers in the analysis. Most of the orders made directly on publishers required advance payments unlike credit supply terms of other vendors. Further, some of the outstation suppliers within the country compulsorily supplied through VPP or Railway parcel or road parcel involving a marginal delay. Though originally data was tabulated monthwise it was not found much useful as we were not trying to analyse the data for 'how soon' books are supplied. Taking for granted that there will be some delay, 'how many' books are supplied within a period of 8 to 20 months is examined. Hence data is grouped for four quarters of 1983 in Table 1. In addition the following limitations of the table may be noted.

Firstly, all the books for which there are specialised/exclusive representatives have been ordered on such Indian suppliers, i e, IS1, IS2 and IS3 in Table 1. Out of the remaining, books of popular publishers such as Academic, Pergamon and McGraw Hill are ordered in batches almost together on Indian suppliers (i e, IS4 to IS10) with the hope of getting many such books quickly from ready stock. Thirdly, as far as possible, each Indian supplier has been provided with orders representing books of all popular publishers. Yet due to lack of time supply position is not analysed here by publisher of the book. Fourthly, most of the books of professional bodies (so called short discounted titles) have been directly ordered with publishers including Indian publishers i e, IS11 and FS3. Fifthly, rest of the books including books of less known/obscure publishers, old books and books which are not likely to be available in local market have been ordered with two foreign suppliers (FS1 and FS2 in the table), one in UK and the other in USA, based on the nationality and pricing policy of the publishers. Sixthly, all orders except orders made during first quarter are for recently published books. Substantial number of books ordered during first quarter are published during 1970s. Lastly, data is found slightly inadequate in case of suppliers IS3 and IS5. So is in case of third and fourth quarter orders on Indian retailers.

Table 1 : Supply Status of on Demand Books Ordered during 1983 (as of September 1983)

ORDERED / SUPPLIED

SUPPLIER / MONTH OF ORDER		INDIA														FOREIGN					TOTAL	
		EXCLUSIVE/SPECIALISED				RETAILERS						DIRECT & MISC				RETAILERS		DIRECT & MISC				
		IS1	IS2	IS3	Sub. Total No.	IS4	IS5	IS6	IS7	IS8	IS9	IS10	IS11	Sub. Total No.	%	FS1	FS2	FS3	Sub. Total No.	%	No.	%
JAN - MAR		0/0	13/13	0/0	13/13	18/3	0/0	21/8	26/6	22/6	24/5	32/6	6/3	149/35	85	18/15	0/0	39/22	57/37	65	219/85	59
APR - JUN		9/9	14/14	1/1	24/24	3/2	7/1	1/1	5/1	5/3	0/0	10/0	15/4	44/12	27	31/26	21/14	32/12	84/52	68	152/88	60
JUL - SEP		5/5	2/2	0/0	8/7	0/0	0/0	0/0	4/0	0/0	0/0	4/0	30/15	38/15	39	60/45	27/22	60/34	147/101	69	195/125	64
OCT - DEC		29/21	6/5	8/2	43/28	0/0	0/0	0/0	0/0	0/0	0/0	3/2	2/1	5/3	60	62/40	51/20	93/59	206/99	48	334/198	54
TOTAL	NO	44/35	35/34	9/3	88/72	21/5	7/1	22/9	35/7	25/9	24/3	49/8	53/23	226/65	28	171/126	99/56	224/107	494/289	59	918/426	52
	%	80	97	33	82	24	14	41	20	36	13	16	43	28	-	74	57	43	59	-	82	-

3 ANALYSIS OF THE DATA

It may be seen from Table 1 that out of 818 on demand books ordered during 1983, only 426 (i e, 52 percent) are supplied by September 1984. This is against the usual tall claim of the industry that any book published anywhere in the world can be supplied in about six months time. In other words 48 percent of demands of users are not met even after 8/20 months of placing orders. By and large, exclusive/specialised agents have fared fairly better with an overall 82 percent efficiency. Though the ordering policy has a favourable edge to Indian retail vendors, the performance of foreign vendors with an average of 59 percent efficiency is much better than 28 percent efficiency of Indian vendors. It may be noted here that though foreign vendors have unilaterally cancelled some titles after lapse of six months/one year, the same are not excluded from the data. Among Indian vendors, highest percentage (i e, 43 percent) of books have been bought by direct orders including orders on miscellaneous suppliers. The next highest performance among Indian vendors are by IS6 (41 percent) which has slightly inadequate data to generalise and IS1 (36 percent).

Among foreign vendors FS1 has been quite better with 74 percent of efficiency than FS2 which supplied 59 percent of books. However, direct and miscellaneous suppliers (FS3) could supply only 48 percent understandably due to infrequent contact of the library and lengthy advance payment procedure involved. Looking at the table for row totals we see the supply position of orders made during different quarters of 1983. For convenience Table 2 presents by extracting from Table 1 percentages of on demand books supplied by Indian and foreign suppliers for orders of four quarters of 1983. An interesting observation is that the percentage of books supplied is not at all directly proportional to time as far as Indian retail vendors are concerned. However, supply of exclusive/specialised Indian dealers and foreign suppliers show a trend that more books are supplied against older orders. In fact, a reverse trend of more supplies against recent orders than old orders is seen in case of Indian retail vendors. This goes to confirm the general observation that many Indian book vendors make random supply in an accidental way, depending on match of pending orders with stock based on memory of operating staff. There were instances where books pending for supply for long time came as approval books either from the same vendors or others in the city. As such old orders may not materialise fully and reach 90 to 95 percent supply even after 2-3 years. Even the feedback about delay or non-availability or cancellation comes rarely from Indian vendors.

4 RESULTS AND OBSERVATIONS

To recapitulate from the analysis, out of 818 on demand books ordered

during 1983 only 426 (52 percent) are supplied so far, and average supplying efficiency of exclusive/specialised Indian dealers, foreign vendors and Indian vendors are 82 percent, 59 percent and 28 percent respectively. The direct orders on publishers and miscellaneous suppliers have brought reasonably good supplies. The percentage of books supplied is not directly proportional to time in case of Indian vendors. The study indicated that among the Indian vendors IS6, IS8 and IS11 are more efficient than others.

Table 2 : Percentages of On Demand Books Supplied (as of September 1984)

Supplier / *Month of Order*	*Indian*		*Foreign*	*Total*
	Exclusive Specialised	*Retailers*		
Jan—Mar 1983	100	23	65	39
Apr—Jun 1983	100	27	62	58
Jul—Sep 1983	88	39	69	64
Oct—Dec 1983	65	60	48	51
TOTAL	82	28	59	52

With the mushrooming of retail book vendors and certain problems of the trade no sign of improvement in on demand books supply position is seen in the near future. They try to concentrate on fairly costly books, standing orders on serials, books of popular publishers and prefer dealer library (approval) plan to promote what is available (or what is left?) in their stock than meeting on demand requirements of books. Very few of them have systematic methods of informing libraries about status of supply and nonsupply to enable libraries to take alternate action. In this respect, foreign vendors are quite prompt. With their computerised system, they inform libraries about status of supply as well as cancellation after lapse of stipulated period.

Few years ago, a similar experiment was done by ISAC Libray with Indian wholesale-dealers and the result was not much different from that of Indian retail vendors.

If user participation in collection development is discouraging, the supplying efficiency is much more gloomy as discussed above, thereby creating a vicious circle in special libraries where users are conscious of their rights and sensitive about their demands. Several users have expressed that they are losing faith in indenting/suggesting books to ISAC

Library as many of their earlier indents have not yet been fulfilled. Even after discounting an element of subjectivity in their feelings, there is truth in their views as evidenced in this study. If the library wishes to have constant patronage and participation of users in collection development, newer methods such as obtaining by bulk airfreight and/or selective airmail from foreign vendors may have to be explored at least in case of on-demand books once convinced about nonavailability in local market.

Finally, this study has enabled ISAC Library to know where it stands in terms of procurement of on demand books and how this data should be made use of in future procurement policies. Since users are not much concerned with the book trade/suppliers all the delays have to be apparently absorbed as delays at library and the librarian has to smilingly say user is always right. The problem persists to a great extent.

ACKNOWLEDGEMENTS

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BOOK RESERVOIRS—A NEW FEATURE IN LIBRARY AREAS

P V MEHTA

Moment a library is established each of the Five Laws of Library Science start struggling among themeselves to claim priority in respect of their application. Of these, the Fifth Law generates its power over others, especially when the libraries are nearing 25 to 50 years of their existence. An attempt is made to overcome the difficulties by examining the headaching problem of less used materials in such libraries.

Heavy load of books wanted occasionally and space occupied by them is a pressing problem of all public libraries because majority of them have been established 50 years before and can be seen overcrowding with less used reading materials.

One of the most familiar maxims in librarianship is that the best advertisement a library can have is a comprehensive and up-to-date book-stock, maintained in good condition.

1 CONSTANT REVISION OF STOCK

Of recent year, book funds in public libraries have tended to improve but in the main, they are still far from adequate; a state of affairs readily recognizable by a casual inspection of the average library shelves. A sound book stock depends not only on the generous acquisition of new publications but equally upon constant revision of the existing stock, weeding out obsolete volumes, replacement by new editions where available. A systematic investigation would not only reveal out-of-date volumes but also reveal that more subjects have remained entirely unrepresented by the authoritative works.

Far too little attention has been paid to revision of stock by the public libraries in our country. On an average, every third day, one new book is being added to library to occupy its place on the shelves. Thus library grows with every day. This creates the problems of space furniture and

finance. Further, if out-dated books are not discarded, not only that they unnecessarily eat away space but increase the maintenance cost. This is a most vexed problem that the librarians and managements see helplessly with no solution in sight. The problem is true to every type of library, large or small down from village to central one.

In a large library, revision of stock needs systematic application week by week and month by month. In small libraries, inspection at regular intervals might suffice. But librarians and managements have to be cautious in this process. Stock revision is a practised art. The day has passed when one librarian can set himself to be an authority on all subjects, knowledge itself is too vast and the printed literature available is collosal. The librarians must not be averse to seeking the help of specialist bodies or special readers.

But the question arises to management where to put the weeded-out books? The best answer is to have a regional repository centre in each of the revenue regions of every state of India.

2 WEEDING

Books of course may wear out in a way other than physically. A physically good book may have been rendered valueless by lapse of time, or it may have been put in the class of 'wanted occasionally.' Such books have no place in library collection. It seems a pity even to give them a storage room in an expensive building—creating a problem of space and furniture. To have special warehouses to store weeded books is the only solution.

Except in literature and in case of classics in any subject, the 'year of publication' is more relevant and helpful in discarding the obsolete book stock. It is more often the year of publication that determines the value of a book. The majority of the readers are interested in the latest books, while antiquarians may be interested in the oldest books. Most pedestrian works cease to have a value to an ordinary reader at the expiry of ten to twenty years after publication. Any work with persisting value is likely to come out again in a new edition.

The view of Dr S R Ranganathan is that "many of the modern books get outmoded in ideas expounded in them within 20 years. After that period such books should not be preserved in library, but should be weeded out and written off."[1]

"In a service-library, out-dated books are not only a burden, but they may even be a social danger. Because, the lower intellectual strata in democracy may not be able to sense the erroneousness of the information or the knowledge given in such books. I usually highlight this new element in the context of the provocative statement: The expectation of life of a modern book is only ten years. A service-library hoarding books, over

ten years old, is punishable for one or other of two reasons : Either it has neglected to circulate the book properly as is evident from its being not worn out sufficiently and reduced to pulp by legitimate use to make its being weeded out a necessity or it is retaining a book embodying out-of-date knowledge and exposing it to use by the public. Either of these is a social danger. If work as well as the book embodying it are of fleeting value, there is no harm in weeding the book out in ten years. If the work is immortal and its body perishes by actual use, one will have to withdraw it in ten years and replace it by a fresh copy; moreover, its very lasting value will enable it to come again in a new embodiment. In that case, it is wiser to replace it by a later edition."[2]

Sinha's Library Advisory Committee Report — 1958 also felt such a need in the following words :

> "A Public library is a service organization and like a consumer's store, it must maintain itself constantly in a trim state, and not allow itself to be cluttered up with odd and ends. This means that weeding out of worn out and out of date books is as important in a public library as acquisition of new books."
>
> "It is said that a conscientious librarian should discard 5 percent of his fiction and 2 percent of his non-fiction every year, so that the library completely renovates its fiction stock in the course of 20 years and its non-fiction stock in 50 years."[3]

Council of American Library Association also holds similar views : "Annual withdrawals from the collection should average at least 5 percent of the total collection. Unnecessary items remaining in a collection can weaken a library as surely as insufficient acquisitions. In time such material characterises the whole collection over-shadowing newer and more useful purchases. Out-dated material should obviously be removed; discredited material deserves the same action, although this requires more judgment; and items no longer of interest should give way in the process so appropriately termed "weeding". With few exceptions, public libraries are not centre for research, except in the field of local history, when not adequately supplied elsewhere. They do not need to retain material for a passive future scholar, and their day-to-day effectiveness for regular users decreases as they keep seldom used material. The currently useful works which form the bulk of meterial in a public library collection are expendable or "dead" within ten years."[4]

A public library of 50 years old should as a rule discard its less used reading materials every year equal to the number of newly added titles.

3 REPOSITORY CENTRE

The question arises where to put the weeded out books? The best

answer is provided in the recommendations of Sinha's Report of Advisory Committee for Libraries—in which it suggests that "every state or region should have a centre where such weeded out books are sent. The centre keeps one copy of each book sent to it against the odd chance of its being needed for consultation by an out of the ordinary run of reader. Other copies destroyed or sold as second-hand stuff; better destroyed, by the librarians. This is the book reserve of the region. The book reserve itself may need occasional weeding out, and if there is a copy-right library, the weeding out can be ruthless after a lapse of time. All this points to the necessity of instituting book reservoirs as essential kitchen-middens of a library culture."

"The books in the book reserve may be kept in yearly sequence so that as far as possible it retains books for only 10 years. Thus the book reserve may keep itself trimming constantly to manageable proportions."[3]

4 BOOK-RESERVOIRS (B R)—GUJARAT BLUE PRINT

While nothing of this kind has yet been done in our country, Gujarat a pioneer in giving a system of free public libraries, travelling libraries, library training classes, library association, library cooperative society, publishing a library journal namely—"Library Miscellany (Q)" in three languages, open access etc, has contemplated for such a Book Reservoirs (BR) in its seventh Five Years Plan. The Library Steering Committee of the plan, has proposed a sizeable outlay for such purpose.

Of the 6,500 public libraries, 500 are located in towns and cities most of them are 50 years old. As the collection of these libraries grows older, the problem of "weeding out" is getting to be more and more important and claim a place beside those of selection and purchase.

It is hoped that at least one B R will start functioning in one of the four regions of the State. The proposed B R will serve many-fold purposes at a time such as :

1 It will reduce the strain on the maintenance charges of such older books.
2 New books can be accommodated in the space vacated by the weeded out books and thus save cost on new furniture and space.
3 Should the B R publish every year the printed catalogue of list of its holding and send to the participating libraries, such lists can be consulted by readers all over Gujarat and if any of the titles is wanted can be obtained on loan from B R through the local library and for such facility the B R should preserve at least 2 titles (not one as suggested by Sinha's Committee) of each wedded out book. For, one copy should be safely sent out on loan and the other one could be kept as a deposit.

4 Such printed catalogue by the B R shall fill in the vacuum of a union catalogue of old stock to a great extent, if it is regularly supplemented every year.

5 Once the loan system is established by B R, the value of cooperation would be understood by the libraries and the spirit of co-operation in service to readers would be developed among them. This is not a mean advantage, because it could pave the way to regional co-operation system as a whole.

6 Researchers will find an easy and sure way of obtaining listed books at one place namely Book Reservoirs of the regions.

The crucial problem of less used reading materials is analysed here above, and at the same time it has highlighted the long overdue necessity of instituting Book Reservoirs (B R) in each of the regions by every State of India. Revenue region generally consists of four to five districts. Sooner such B Rs are established, better it is for libraries, librarians, managements and the State and last but not the least to the readers in particular.

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BUDGET ALLOCATION AND TRENDS IN BOOK PRICES AND PERIODICALS SUBSCRPITION PRICES : A CASE STUDY

JANAK RAJ

1 BUDGET APPROVING

1.1 PRODECURE

Annual budget of Regional Engineering College Library, Kurukshetra is prepared by the librarian in the month of October every year for the coming financial year giving estimates for both recurring and non-recurring funds required along with demands for an additional staff. The budget proposals of the librarian are considered by the Library Committee and recommended to the Principal. Budget for the whole college is submitted by the Principal to the Finance Committee which in turn recommends to the Board of Governors for its final approval. So, by the mid of December the college budget is approved and its budget proposals submitted to both the State and Central Governments for finances.

2 COLLEGE VS LIBRARY BUDGET

Dr Radhakrishnan Commission Report (1948)[1] has recommended that 6¼ percent of the total annual budget of university/college should be spent on library. Kothari Commission Report (1966)[2] also recommended 6.5 percent share for library out of the total budget of an institution. American Library Association "established 5 percent as the annual 'minimum' library budget to be allotted from the total university budget."[3]

Judging from these standards budget of the library is studied as follows for five years ie from the year 1974-75 to 1978-79. Out of the given years a random sample of every alternate year has been taken which works to as under:

Year	*College Expenditure (Recurring)* Rs*	*Library Expenditure (Recurring)** Rs*	*Percentage*
1974-75	37,81,006.00	1,61,859.00	3.28
1976-77	50,07,885.00	2,28,996.00	4.56
1978-79	55,00,051.00	3,05,885.00	5.55

*Excludes expenditure on P G as no additional funds for P G were provided to the library.

**Excludes expenditure on stationery, electricity, building maintenance, salary of a sweeper and chowkidar which is met out of the common pool of the college budget.

Another criterion suggested for this ratio is the per-capita basis. Alternatively, the Radhakrishnan Commission Report (1948) suggested Rs 40.00 per student annually, and the Kothari Commission Report put the figures at Rs 25.00 per student and Rs 300.00 per teacher.

Judging from these standards the library expenditure made over years from 1965-66 to 1978-79 is studied as per Table 1.

3 LIBRARY BUDGET OVER YEARS

3.1 Non-recurring

The library was provided with a capital grant of Rs 3,00,000.00 in the beginning to build its basic stock. To this basic grant a further sum as indicated below was added later:

Year	*Budget Grant* (Rs)
1971-72	62,200.00
1978-79	50,000.00
1979-80	2,00,000.00

Not more than 20 percent of the capital grants could be spent on furniture and equipment.

Thus far, out of both non-recurring, recurring grants and additional funds which were available from other sources from time to time, the library spent a sum of Rs 14,20,871.00† on its assets with the following break-up:

†Upto Jan 1, 1980,

Books	Rs	8,35,861.03
Periodicals (current)	Rs	4,98,468.55
Furniture and Equipment	Rs	86,542.14
TOTAL	Rs	14,30,871.72

Table 1 : Per Capita Expenditure

Year	*Expenditure** in Rs	*Student Population UG, PG, Research Scholars*	*Staff*	*Total*	*Per Capita expenditure* in Rs
1965-66	49,022.00	123	85	208	235.61
1966-67	59,260.00	368	90	458	128.00
1967-68	86,209.00	622	90	712	120.00
1968-69	81,495.00	884	90	974	90.80
1969-70	70,417.00	1,068	90	1,158	50.80
1970-71	62,570.00	1,148	90	1,238	50.50
1971-72	68,642.00	1,149	95	1,234	55.60
1972-73	70,962.00	1,139	100	1,239	57.27
1973-74	71,914.00	1,136	105	1,241	57.90
1974-75	89,992.00	1,218	107	1,315	68.50
1975-76	1,09,216.00	1,120	110	1,280	85.30
1976-77	1,39,559.00	1,208	115	1,323	105.48
1977-78	2,31,992.00	1,280	115	1,395	166.00
1978-79	2,08,162.00	1,280	115	1,395	149.20

Grants received and the expenditure made under these budget heads from the year 1965-66 have been shown as per Tables 2 and 3. Besides the regular grants for books and periodicals as shown vide Table 2, more sums available from various other sources have been indicated in Tables 4 and 5.

*Includes expenditure on books, periodicals, library supplies, binding, materials for electrostatic copier. Does not include library staff salaries.

Table 2 : Library Grants

Year	*Grant for books and periodicals in Rs*	
	*Books**	*Periodicals***
1965-66	50,000	—
1966-67	60,000	5,000
1967-68	80,000	12,000
1968-69	1,10,000	17,000
1969-70	50,000	22,000
	32,600	
1970-71	16,000 + 1000 a special grant for Humanities Deptt	27,000
1971-72	62,200	32,000
1972-73	—	39,000
1973-74	—	40,000
1974-75	—	45,000
1975-76	—	45,000+ 19,000
1976-77	46,000	45,000
1977-78	46,000	45,000
1978-79	1,31,000	45,000
1979-80	2,86,000	45,000
1983-84	46,000	90,000

*Excluding Student Aid Fund, Book Bank, Departmental Operation Cost, Post Graduate Departmental Operational Cost, University Council of Scientific and Industrial Research, PL 480 etc.

**Excluding Departmental Operational Cost,

Table 3 : Library Expenditure

Year	*Expenditure on Books and Periodicals in Rs*	
	*Books**	*Periodicals***
1965-66	48,122.11	—
1966-67	52,073.32	4,989.77
1967-68	72,388.83	11,824.49
1968-69	65,481.50	16,968.20
1969-70	42,268.65	20,993.10
1970-71	19,808.77	26,992.32
1971-72	19,891.09	31,962.66
1972-73	17,514.52	38,987.10
1973-74	18,695.75	39,999.73
1974-75	1,981.92	44,986.46
1975-76	—	63,333.71
1976-77	31,678.42	39,717.75
1977-78	52,974.27	37,700.41
1978-79	37,227.55	50,416.91
1979-80	96,282.75	42,023.69
1983-84	32,116.86	67,486.24

*Excluding Student Aid Fund, Book Bank, Departmental Operation Cost, Post Graduate, Departmental Operation Cost, Council of Scientific and Industrial Research, University Grants Commission, PL 480 etc.

**Excluding Departmental Operation Cost.

Table 4 : Grants For Books (Including other Sources)

Year	*Library Rs*	*SAF Rs*	*UGC Rs*	*P.G Diploma Rs*	*CSIR Rs*	*DOC Rs*	*PG DOC Rs*	*Book Bank Rs*	*Total Rs*
1965-66	50,000.00	—	—	—	—	—	—	—	50,000.00
1966-67	60,000.00	—	—	—	—	—	—	—	60,000.00
1967-68	80,000.00	—	—	—	—	—	—	—	80,000.00
1968-69	1,10,000.00	3,000.00	—	—	—	—	—	—	1,13,000.00
1969-70	50,000.00	3,830.00	—	—	—	—	—	—	86,430.00
Last balance	32,600.00								
1970-71	17,000.00	1,488.00	—	—	—	—	—	—	18,488.00
1971-72	62,200.00	700.00	2,129.27	1,144.32	1,059.00	—	—	—	67,232.59
1972-73	—	6,327.00	—	—	238.35	6,803.39	—	—	13,386.74
1973-74	—	7,305.00	—	409.75	—	3,009.49	180.66	—	10,905.00
1974-75	—	37,897.00	555.03	—	—	3,195.70	—	—	41,648.33
1975-76	—	24,892.10	—	—	—	9,589.06	1,543.19	—	36,024.35
1976-77	75,250.00	27,054.62	—	—	—	4,596.56	—	31,000	1,06,901.18
1977-78	46,000.00	36,622.09	—	—	—	20,156.49	—	40,000	1,02,778.58
1978-79	46,000.00	15,000.00	—	—	—	17,325.24	—	20,000	1,48,325.24
	50,000.00	Ad hoc							

(SAF=Student Aid Fund, UGC=University. Grtants Commission,, CSIR=Council of Scientific and Industrial Research, DOC=Departmental Operation Cost, PG, DOG=Post Graduate, Departmental Operation Cost)

Table 5 : Grants For Journals

Year	*Library Rs*	*Departmental Operation Cost Rs*	*Total Rs*
1965-66	—	—	—
1966-67	5,000.00	—	5,000.00
1967-68	12,000.00	—	12,000.00
1968-69	17,000.00	—	17,000.00
1969-70	22,000.00	—	22,000.00
1970-71	27,000.00	—	27,000.00
1971-72	32,000.00	—	32,000.00
1972-73	39,000.00	—	39,000.00
1973-74	40,000.00	—	40,000.00
1974-75	45,000.00	1,338.30	41,338.20
1975-76	64,000.00	1,811.57	65,111.57
1976-77	45,000.00	21,433.79	66,433.79
1977-78	45,000.00	18,214.45	63,214.45
1978-79	45,00.000	41,612.18	86,612.18
1979-80	45,000.00	22,996.68	67,996.68

3.1.1 *Books*

A look on Figure 1 showing grants and expenditure on books shows that the budget was progressive from the year 1965-66 to 1968-69 and thereafter it shows fall till the year 1976-77. It was so because no recurring grant for books had started and only the balance available from the previous years out of the basic grant was carried over and spent. From the year 1976-77 the budget again shows progression.

Another peculiar phenomenon which is evident is that the black bars showing expenditure rise much higher than the provisions of regular grants,

It is so because additional funds from other sources (Table 4) were made available.

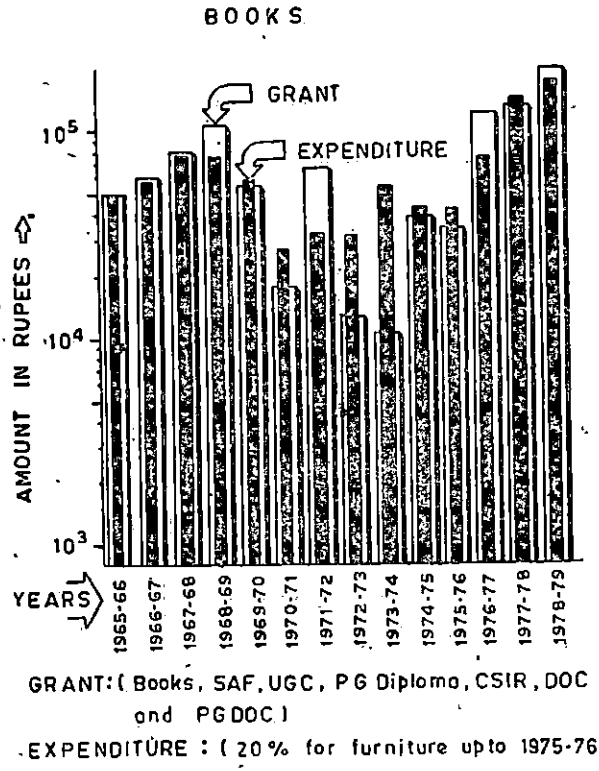


Fig. 1. Comparative study of grants and expenditure on books.

3.1.2 *Journals*

The grants and expenditure for journals in Figure 2 show a constant progression from the year 1965-66 to 1976-77 and they are the highest during the year 1978-79. During the years 1976-77 and 1977-78 the blank bars showing grants are seen raising their heads much higher than the black ones indicating expenditure. However, this should not be taken as an indicator that the requirement for journals slided down. It happened so, as the vendors had to be changed during these years because of their low rates and both the new vendors could not remit payments to the respective publishers well within the stipulated time. Thus considerable amount of funds lapsed causing gaps in the volumes of many journals during these two years.*

*Further discussion on the budget heads: library supplies, library-binding and material and service charges for electrostatic copier is omitted hereafter as the major concern is with the internal allocation of budget for books and journals

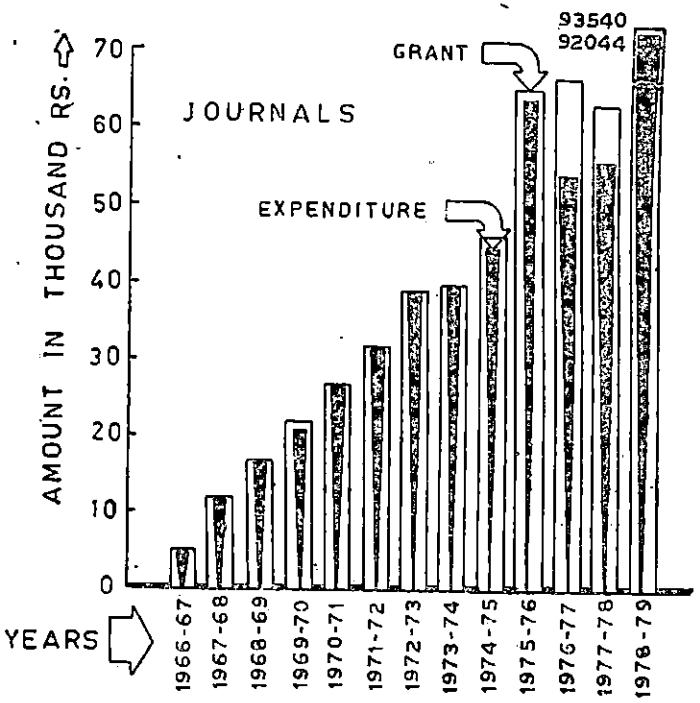


Fig. 2. Comparative study of the grants and expenditure on journals.

4 BUDGET ALLOCATION

4.1 Broad Allocation of the Budget

As per Kothari Commission (1966) expenditure on reading materials, staff and other items should be in the ratio of 4 : 5 : 1.[4] ALA suggested that out of the 5 percent of the total budget of a university which may be allocated for its library "... 52.9 percent which is a majority, goes towards salaries and 39.1 percent for books and the rest for other items (supplies etc)."[5] Judging from these standards the broad budget allocation comes to as under when it is studied for five years, i e from the year 1974-75 to 1978-79, taking a random sample of every alternate year:

Year	*Staff Salary Rs*	%	*Reading Materials Rs*	%	*Others Rs*	%	*Total Rs*
1974-75	71,866.65	44.4	85,492.00	52.9	4,500	2.7	1,61,858.65
1976-77	89,437.90	39.1	1,30,059.00	56.8	9,500	4.1	2,28,996.90
1978-79	95,123.00	31.1	1,99,262.00	65.1	11,500	3.8	3,05,885.00

This becomes evident that whereas the percentage of expenditure made on staff goes on decreasing, the percentage of expenditure on reading materials is on the increase. It amounts to that staff has not been increased in proportion to the increase of work in the library.

Major emphasis on procurement of reading materials alone is not proper. More than equal emphasis should be laid on the utilisation of the procured material which is possible only by providing trained library staff adequate in number otherwise the huge amount spent on the reading materials would amount to blocking of the money invested with little dividends.

4.2 Allocation to the Departments

Following the principle of equal share, allocation of the grant, for books and journals among the various departments of the college, is done as under :

Civil Engineering (C)		17%
Electrical Engineering (E)		17%
Electronics and Communication Engineering (EC)		17%
Mechanical Engineering (M)		17%
Applied Sciences :		17%
Mathematics (MA)	5%	
Physics (PH)	4%	
Chemistry (CH)	4%	
Humanities (H)	2½%	
Geology (G)	2½%	
Generalia		15%
		100%

"It is not equal distribution that is suggested, but only equitable distribution", says the UGC Library Committee Report.[6] To make the allocation equitable and need based various methods are used.

Miriam A Drake[7] states four basic methods used by various academic libraries to decide about budget allocation. The first method uses faculty size as a base. Student enrolment, number of courses offered, number of graduate students, and other variables that are related to library costs are not considered in this method. The second method is based on faculty salaries. The other two methods of library cost allocation are based on

usage but differ in their assumptions and applications. One method is based on intended use of direct cost and other on actual use.

A sub-committee at the Regional Engineering College, Kurukshetra, comprising of the following members, worked out need-based formulae for allocation of grants* which take various variables into consideration :

1 Chairman, Library Committee
2 Head of the Mathematics Department
3 Librarian

Setting aside 15% of the grant for Generalia; both out of book grant and grant for periodicals, the sub-committee gave three formulae each for general books, text-books, and journals as follows :

4.2.1 *Generalia (Books) 15%*

Criteria for general books for each department

$$\text{Weightage} = \text{Pav} \sum_{x=1}^{x=n} \text{Hcx}$$

Pav —The average price for a book recently purchased. (Worked out on the basis of say, 30 books most recently bought.)

Hcx—Weighted number of hours allotted to each course given by L. + Tu + ½ (P + D), where

L— Number of lecture classes;
Tu—Number of tutorial classes;
P— Number of practical classes; and
D— Number of drawing or design classes.

Table 6 : Departments Weightage for General Books

Department	*Pav*	*Hcx*	*Pav × Hcx*	*Percentage*
C	106	152	16,112	21.67
M	97	161	15,617	21.01
E	99	170	16,830	22.64
EC	120	125	15,000	20.18
PH	93	27	2,511	3.38
CH	108	22	2,376	3.20
MA	94	49	4,606	6.20
H	24	29	696	0.94
G	97	6	582	0.78
			74,330	100.00

*However, the formulae were not implemented for want of approval from the Principal.

4.2.2 *Text Books*

Weightage

$$\sum_{x=1}^{x=n} Ncx \cdot Pcx$$

n — Number of courses in the department.
Ncx — Number of students attending course cx.
Pcx — Price for book for course cx.

Table 7 : Departmentwise Weightage for Text-books

Department	*Pcx · Ncx*	*Maximum value of text-book Rs*	*Percentage for Department*
C	1,16,121	160.00	17.60
M	1,59,560	140.00	24.16
E	1,49,182	567.00	22.60
EC	53,380	140.00	8.09
PH	52,695	76.00	7.98
CH	47,945	35.00	7.26
MA	41,440	36.00	6.28
H	35,000	42.00	5.30
G	4,810	37.00	0.73
	6,60,133		100.00

4.2.3 *Generalia* (*Journals*) 15% + *other Journals*

Weightage

$$3\left(\frac{T}{2}+\frac{S}{6}+R\right)\sum_{x=1}^{x=n} Npx$$

T — Number of teachers in the department.
S — Number of final year students in each branch.
R — Number of research scholars in the department.
N — Number of P G courses offered by the department.
Npx — Number of students attending the P G courses x.

Departmentwise Weightage for Journals

Department	$3\left(\frac{T}{2}+\frac{S}{6}+R\right)$	$\sum_{X=1}^{X=n}$	*Weightage*	*Percentage*
C	$3\left(\frac{23}{2}+\frac{53}{6}+0\right)=61$	160	221	27.7
M	$3\left(\frac{28}{2}+\frac{80}{6}+0\right)=82$	88	170	21.3
E	$3\left(\frac{21}{2}+\frac{38}{6}+0\right)=50.5$	176	216.5	28.4
EC	$3\left(\frac{7}{2}+\frac{25}{6}+1\right)=24$	0	24	3
PH	$3\left(\frac{9}{2}+0+0\right)=13.5$	35	48.5	6.1
CH	$3\left(\frac{8}{2}+0+3\right)=21$	0	21	2.7
MA	$3\left(\frac{8}{2}+0+2\right)=18$	48	66	8.2
		C M E (16+8)+8+16		
H	$3\left(\frac{6}{2}+0+0\right)=9$	0	9	1.1
G	$3\left(\frac{1}{2}+0+1\right)=4.5$	0	12.5	1.5
			797	100%

5 RISING COST AND BUDGET

5.1 Rise in Average Cost

Looking to the figures of grants and expenditure from the year 1965-66 through 1978-79 one gets a feeling of manifold increase, but the increase in number of assets did not multiply in the same proportion. In the year 1965-66 the library acquired 2,504 books against Rs 49,022.00 whereas only 2,025 books could be acquired in the year 1978-79 though the amount expended was Rs 1,07,217.00 (Table 8). The average cost of a book which was Rs 19.5 in the year 1965-66 rose to Rs 52.90 in the year 1978-79 and Rs 44.81 in the year 1983-84.

Table 8 : Average Cost of a Book

Year	*Books*	*Expenditure Rs*	*Average cost of a book Rs*
1965-66	2,504	49,022.00	19.50
1966-67	1,803	55,271.00	30.10
1967-68	2,568	72,385.00	28.20
1968-69	2,115	68,527.00	32.04
1969-70	1,724	46,424.00	26.00
1970-71	1,536	30,078.00	19.51
1971-72	1,765	32,180.00	18.20
1972-73	2,073	27,475.00	13.20
1973-74	1,544	27,415.00	17.71
1974-75	2,044	40,506.00	19.82
1975-76	2,586	25,081.00	9.61
1976-77	3,042	79,660.00	26.20
1977-78	5,239	1,64,577.00	31.40
1978-79	2,025	1,07,217.00	52.90
—			
1983-14	2,767	1,24,191.00	44.81

So also for journals, the average cost of a journal which was Rs 74.45 in the year 1965-66 came to Rs 541.44 in the year 1978-79 (Table 10) and Rs 813.93 in the year 1983-84. A glance at the following table shows an astounding rise in rates of subscription as they were during the years 1968-69 and 1983-84 of a few foreign journals subscribed by the library. Out of the total 148 journals subscribed during the year 1968-69 every 10th foreign journal in the list of the subscribed journals for that year was

picked up as a random sample to know the extent of rise in the rate of subscription in percentage :

Table 9 : Percentage Rise in Subscription Role

S No	*Name of Journal*	*Subscription Rates in 1968-69*	*Subscription Rates in 1983-84*	*Rise in percentage*
1	ASCE Proceedings (all divisions)	$ 60.00	$ 734.00	1,221.29
2	ASME Transactions (for 5 series)	$ 53.75	$ 1,086.00	2,020.46
3	International Journal of Electronics	£ 28.00	£ 181.00	6,46.428
4	International Journal of Production Research	£ 5.05	£ 83.00	1,643.56
5	International Journal of Rock Mechanics and Mining Sciences	$ 43.00	$ 300.00	597.67
6	Journal of Mechanisms (now Mechanisms and Machine Theory)	$ 38.00	$ 200.00	426.31
7	Work Study of Management Services (now Management Services)	£ 3.12	£ 30.40	974.35
8	Engineering Index (Annual)	$ 125.00	$ 820.00	656
9	SAE Transactions	$ 225.00	$ 495.00	220
10	IEEE Transactions on Power Apparatus and Systems	$ 29.00	$ 193.00	665.51
11	International Journal of Engineering Science	$ 72.00	$ 400.00	456.94

So it can be observed that the rise ranged from 220% to 2,020.46%.

Table 10 : Average Cost of a Journal

Year	*Number of Journals subscribed*	*Expenditure Rs*	*Average cost of a Journal Rs*
1966-67	67	4,988.77	74.45
1967-68	73	11,824.89	161.98
1968-69	148	16,968.20	114.65
1969-70	124	20,993.10	169.29
1970-71	143	26,992.32	188.75
1971-72	159	31,962.66	201.52
1972-73	160	38,987.10	243.69
1973-74	165	39,999.73	242.40
1974-75	165	44,986.46	272.64
1975-76	171	64,134.74	375.05
1976-77	145	50,399.03	347.57
1977-78	182	55,914.86	307.22
1978-79	170	92,044.04	541.44
—			
1983-84	144	1,17,205.92	813.93

The effect of tremendous rise becomes clear in Figure 3 as the curve showing number of journals subscribed from year to year runs almost flat whereas the bars showing expenditure are ever increasing in their heights.

Putting books and journals together, the average cost which in the year 1966-67 for this library was Rs 32.5 worked to Rs 90.00 in the year 1978-79 showing a rise of 177% in the average cost.

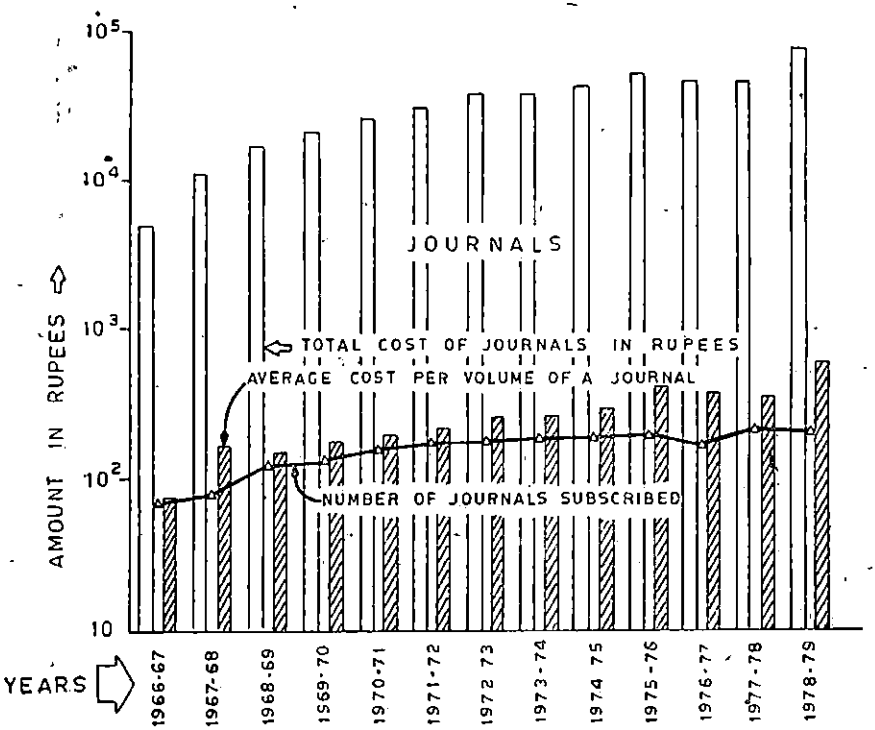


Fig. 3. Number of journals subscribed vs expenditure, a comparison.

5.2 Rise in Conversion Rates

A look on Table 11, showing the yearwise statement of conversion rates right from the year 1965-66 to 1978-79 as approved by the library, makes it clear as to how the rate of a US $ which was Rs 4.50 in 1965-66 suddenly jumped to the height of Rs 7.12 in 1966-67 and Rs 9.00 in 1978-79 making the rise 100%. (The US $ further rose to Rs. 11.90 in the beginning of the year 1984 making the rise to touch 102.64%.)

Thus a grant of Rs 1,00,000.00 during the year of 1978-79 would be equal to Rs 50,000.00 in terms of its value in the year 1965-66.

5.3 Value of Present Money

5.3.1 *In Terms of Average Cost*

Taking the average cost of books and journals together (see Section 5.1) as Rs 32.05 and Rs 90.00 in the year 1966-67 and 1978-79 respectively, the value of Rs 2,00,000/- spent during the year 1978-79 on books and

Table 11: Yearwise Approved Conversion Rates

1965-66	*1966-67*	*1967-68*	*1968-69*	*1969-70*	*1970-71*	*1971-72*	*1972-73*
Sh — Rs 0.67 net	Rs 1.00 net	94 p net	81 p net	80 p net	81 p net	81 p net	90 p net
$ — Rs 4.50 net	Rs 7.12	Rs 6.75 net	Rs 6.75	Rs 6.70 net	Rs 6.75 net	Rs 6.75 net	Rs 6.75 net
DM — Rs 1.25 net	B E R + S C	B E R	B E R net	Rs 1.80 net	Rs 2.25 net	B E R	Rs 2.07 net
FF — Rs 1.13 net	,,	,,	,,		Rs 1.60	,,	
SF — Rs 1.13 net	,,	,,	,,	Rs 1.75			
DFL— Rs 1.35 net	,,	Rs 2.10 less 1%	,,	Rs 2.00 net	Rs 2.25 net	,,	
Yen — Rs 1.52 net	,,	BER	,,				
Skr — Rs 1.13 net	,,	,,	,,	Rs 1.45	Rs 1.70		Rs 1.50
Indian Pub less 10%	VPP NPP Less 10%	Less 10%	Less 10%	Less 10%	Less 10%	Less 10%	Less 10%

1973-74	*1974-75*	*1975-76*	*1976-77*	*1977-78*	*1978-79*
Sh — 90 p net	1.00 less 10%	1.00 less 10%	Rs 16.90/15.50 Less 10%	Rs 16.00 Less 10%	less 10% Rs 16.20 Less 10%
$ — Rs 7.20	8.50 ,,	8.50 ,,	9.70 less 10%	Rs 9.10 ,,	Rs 9.00 Less 10%
DM — Rs 2.25 net	3.20 ,,	Other BER Less 10%	3.70 ,,	Rs 4.00 ,,	Rs 4.40 ,,
DG/DF — Rs 12.75 net	2.70 net	Govt Net PP Less 10%	3.60 ,,	Rs 3.80 ,,	Rs 4.10 ,,
Other BER less 10%	Less 10%	Less 10%	FF 2.00 ,,	Rs 3.90 ,,	
			Sr 3.70 ,,	SW Fr 3.80 ,,	
			Govt net	Net	
DM — Rs 2.68 Net			Indian Research Net	Net	
DG/DFL — Rs 2.70 Net			Foreign + 10% H. charges	15% H C	
SFr — Rs 1.71 Net			A $ 12.20 less 10%	Net Official exchange rate	
			C $ 9.70 less 10%	Rs 8.40 less 10%	

journals in terms of their value in the year 1966-67 comes to as under :

Value of Rs 90/-during the year 1978-79 is equal to its value in the year 1966-67 = Rs 32.5

Value of Rs 2,00,000/- is equal to its value in the 1966-67 = Rs $\frac{32.5}{90} \times 2 \times 10^5$

= Rs 72,222/-

So we get that a sum of Rs 2,00,000/- available in the year 1978-79 is equal in value to a sum of Rs 72,222/- in the year 1966-67.

5.3.2 *In Terms of Conversion Rates*

Since majority of the books are purchased in US Dollars ($) and Pound Sterling (£) currencies, so leaving rise in other currencies we study the effect of rise in US Dollar ($) currency alone during the years 1965-66 and 1978-79 respectively.

Value of Rs 11.90 in the year 1983-84 is equal to its value in the year 1965-66 = Rs 4.50

Value of Rs 2,00,000.00 " " = Rs $\frac{4.50}{11.90} \times 2 \times 10^5$

= Rs 75,757

This way as observed at Sections 5.3.1 and 5.3.2 above we can well imagine the reduced purchasing value of money during the year 1983-84 in comparison to its purchasing value in the year 1965-66 or its other previous years. Hence, the assets have not increased in proportion to the increased money spent during the later years in comparison to the earlier years. Though the grants in figures swelled over years yet they shrank in terms of their purchasing value.

6 CONCLUSION

The principle of equal allocation of grants to each teaching department should be replaced with equitable and need-based allocation. And provision of grants for books and journals should be enhanced from year to year taking into consideration the quantum of increase in the average cost of books and journals and so also the change in conversion rates in respective foreign currencies.

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BUILDING-UP OF PERIODICAL COLLECTION IN THE FIELD OF ZOOLOGY USING CITATION ANALYSIS AS A TOOL

UMESH NARAIN MATHUR

1 INTRODUCTION

Today libraries are very much affected by the constant growth of published literature. The size of literature, the different media and the forms in which it is communicated and the number of users are always in a constant stage of change which Doyle[1] calls as "expanding information environment" ! To understand the proliferating nature of information if we examine only one section of literature names—periodical publications, there are more than 48,000 scientific journals which produce a total two million articles a year.

Due to this large influx of publications, it has been impossible for even large libraries to acquire every published literature because of constraints put by limited fund and space. Thus selection of most relevant new publications for addition and weeding out of less used meterials or discontinuing of less relevant periodical publications has become essential.

Many techniques are available to help the librarians in decision making regarding selection or cancellation of periodicals. A technique used in this context by librarians and information scientists with notable regularity for last few years is citation analysis—a technique of listing of references appended to articles in significant periodicals and the frequency with which periodicals are cited. The principal use of this technique by bibliographic investigators has been to determine a matrix of selected literature characteristics of individual materials used by authors in composing the content of his text. These materials are then arranged in rank order for possible acquisition in the library collection on assumption that the value of cited item is directly related to the number of times it is cited in the professional literature.

Doctoral theses which are the products of research activity have been examined here to find out the literature use pattern by the researchers in the field of Zoology.

Similar studies have been carried out in various fields by Miles and Frederik[2], Verma and Murthy[3,4], Chambers and James[5], Brace[6], La Bore and Michiel[7], Omoriyi[8], Devarajan and Vijayalakshmy[9] and Maheswarappa and Prakash.[10]

2 OBJECTIVES OF THE STUDY

The objectives of the study are to determine :

(i) the principal bibliographic forms;
(ii) the span of time with regard to the periodicals cited in the theses;
(iii) the periodical publications cited most frequently in the theses;
(iv) the trends and areas of research studies;
(v) the subject dispersion of cited periodical titles;
(vi) the distribution of cited periodicals according to their country of origin and languages;
(vii) the helf life of core periodicals.

3 SAMPLE AND METHODOLOGY

Source documents used for the study are doctoral theses accepted during 1980-1982 by the University of Delhi in the field of Zoology, which are seventeen in number. The three year time period was selected to equalize possible variations of short term trends that may present in zoological research. In retrieving citations from the seventeen selected source theses no restriction was made to the language of cited publication or its country of origin. The necessary particulars of the citations were recorded on 5″×3″ slips. Analysis of these citations was made to meet with the objectives set forth for the study.

4 ANALYSIS OF DATA AND RESULTS

4.1 Kinds of Documents Used and their Configuration

Research scholars in the field of Zoology used both periodicals as well as monographs. Though both kinds of documents are used but proportion of periodical publications is much more in comparison to monographs. Table 1 shows the documents configuration. It is significant that more than 88 percent of total citations are of periodical publications. English language as well as other than English language periodicals are used though proportion of periodicals in English language is quite high (95.7%) while only 111 (4.3%) citations belong to titles in language other than English.

Table 1 : Kinds of Documents Cited and their Configuration at a Glance

Number	*Kinds of documents*	*Number of citations*	*Percentage*
1	Periodical publications		
1.1	Periodicals in English language	2,520	84.56
1.2	Periodicals in language other than English	111	3.73
	TOTAL	*2,631	*88.29
2	Monographs		
2.1	Books	307	10.31
2.2	Theses	18	0.60
2.3	Ad-hoc conference proceedings	20	0.67
	TOTAL	*345	*11.58
3	Personal communications	*4	*0.13
	CUMULATIVE TOTAL	2,980	100.00

*Included in cumulative total.

Above table shows that literature other than periodicals are rarely sought by researchers. Main emphasis is given on periodicals. This identifies the significance of periodicals as primary source of information in the field of Zoology.

4.2 CONFIGURATION OF CITED PERIODICAL PUBLICATIONS

Table 2 shows periodical configuration. Periodical publications are first divided on the basis of language, i e periodical titles in English language and in language other than English. Majority of periodicals titles used were in English language which account to 307 titles (86.5%) while rest titles (48) belongto language other than English (13.5%).

Again periodical titles both in English and other than English are divided into two each on the basis of number of citations. Titles cited 5 times or more account to 104 in English language and 4 in non-English language, rest of the periodical titles cited less than 5 times.

This table shows that majority of periodicals whatever the language of publications were cited less than 5 times, number of such titles are 247 (69.6%) in this case.

Table 2 : Configuration of Cited Periodical Publications

	Periodical Publications	*Number*	*Percentage*
1	Periodical titles in English language		
1.1	Cited 5 times or more	104	
1.2	Cited less than 5 times	203	
	TOTAL	*307	*86.41
2	Periodical titles in language other than English		
2.1	Cited 5 times or more	4	
2.2	Cited less than 5 times	44	
	TOTAL	*48	*13.52
	CUMULATIVE TOTAL	355	100.00

*Included in cumulative total.

It can be said therefore, periodical publications used by the research scholars consist of not only English language periodicals but also non-English periodicals, though rarely.

4.3 TIME SPAN

It is possible to provide data on the time of publications of periodicals cited in the theses. This had been done in order to determine the dependency of zoological research on recent and/or retrospective literature. Table 3 shows the time-span of periodicals in English language and periodicals in language other than English.

On the analysis of Table 3, it has been clear that zoological research is based on both recent and non-recent issues of periodical publications. Researchers have used most recent issues (of same year) to very old issues (as back as 1891) of journals. On the basis of year of publication, research periodicals have been divided into following two categories.

4.3.1 *Recent Periodical Publications*

It refers to those issues of periodicals which were published in year 1975 or onwards.

Table 3 : Time Span of Cited Periodicals

Time-span	*Periodical*	*Publications*	*Total*	*Percentage*
	in English language	*other than English language*	*Number*	
1980-82	88	Nil	88	3.36
1975-79	636	4	640	24.50
1970-74	590	28	618	23.67
1960-69	856	48	904	34.60
1950-59	225	10	235	8.99
1940-49	59	2	61	2.34
1930-39	28	8	36	1.38
1920-29	11	5	16	0.62
1910-19	5	4	9	0.35
1900-09	3	Nil	3	0.12
Beyond 1900	2	Nil	2	0.07
TOTAL	2,503	109	2,612	100.00

4.3.2 *Non-recent Periodical Publications*

It refers to those issues of periodicals which were published in year 1974 or back to that.

From Table 3, it can be inferred therefore, that ratio of recent issues to non-recent issues of periodical publications is approximately 1 : 3. Zoological research, therefore, requires much citations from non-recent issues in comparison to recent issues of periodical publications.

4.4 RANKING OF MOST FREQUENTLY CITED PERIODICALS

Table 4 presents a rank order listing of the most frequently cited zoological periodicals. The list is obtained by rank ordering the citations from the seventeen source theses into a single composite listing. These periodicals account for 2,196 (approx. 84%) of the citations.

Those titles which are cited less than 5 times (which account to 251) were not included in rank order list.

Table 4 shows the rank order, name of periodical title, country of

Table 4 : Ranked List Periodicals

Rank	*Name of Periodical (title)*	*Country of origin*	*Number of times cited*	*Percentage*	*Availability in Sc Library (DULS)*
1	*2*	*3*	*4*	*5*	*6*
1	Gen Comp Endocrinol	USA	149	5.0	A
2	J Eco Ent	USA	104	3.5	A
3	J Insect Physiol	USA	96	3.2	A
4	Endocrinol	USA	76	2.6	A
5	Nature	UK	72	2.4	A
6	Bull World Health Org	Switzerland	65	2.2	NA
7	Mosquito News	USA	62	2.08	NA
8	J Endocrinol	UK	59	1.98	A
9	J Cell Biol	USA	56	1.88	A
10	Anat Rec	USA	55	1.84	A
11	Can J Zool	Canada	53	1.78	A
12	Comp Biochem Physiol	USA	53	1.78	A
13	J Reprod Fertil	UK	51	1.71	A
14	Insect Biochem	USA	49	1.65	A
15	Science	USA	49	1.65	A
16	Chromosome	USA	48	1.61	A
17	J Exp Zool	USA	48	1.61	A
18	Biol Reprod	USA	45	1.51	A
19	Ent Exp Appl	Netherland	38	1.28	A
20	Biochim Biophys Acta	Netherland	36	1.20	A

Table 4 (*contd. on page* 358)

Table 4 (*contd. from page* 357)

1	2	3	4	5	6
21	J Biol Chem	USA	36	1.20	A
22	J Protozool	USA	36	1.20	A
23	Exp Cell Res	USA	34	1.14	A
24	Proc Nat Acad Sci	USA	34	1.14	A
25	Am Zool	USA	32	1.07	A
26	Ann Ent Soc Am	USA	30	1.00	A
27	Biochem J	UK	27	0.91	A
28	Devl Biol	USA	23	0.77	A
29	Annu Rev Ent	USA	22	0.74	A
30	Cancer Res	USA	19	0.64	A
31	Experimenta	Austria	19	0.64	A
32	J Fish Res Bd Can	Canada	18	0.60	NA
33	Ann Biol Anim Biochem Biophys	France	17	0.57	NA
34	Biol Bull	USA	17	0.57	A
35	Proc Soc Exp Bio Med	USA	17	0.57	NA
36	J Cell Science	UK	16	0.54	A
37	Acta Endocrinol	Denmark	15	0.50	A
38	Genetics	USA	15	0.50	A
39	Ind J Exp Biol	India	14	0.47	A
40	J Comp Physiol	USA	14	0.47	A
41	Cytogenetics	Switzerland	13	0.44	A
42	Int Rev Cytol	USA	13	0.44	A
43	J Exp Biol	UK	13	0.44	A
44	J Gorontol	USA	13	0.44	A

Table 4 (*contd. on page* 359)

Table 4 (*contd. from page* 358)

1	2	3	4	5	6
45	Cell Tissue Res	USA	12	0.40	NA
46	J Lipid Res	USA	12	0.40	NA
47	J Morphol	USA	12	0.40	A
48	Proc Roy Soc (London)	UK	12	0.40	A
49	Bull Jap Soc Sci Fish	Japan	11	0.37	NA
50	Ind J Med Res	India	11	0.37	A
51	J Embryol Exp Morphol	UK	11	0.37	A
52	Fertil Steril	USA	10	0.33	NA
53	J Fish Biol	USA	10	0.33	A
54	Life Science	USA	10	0.33	A
55	Am J Anst	USA	9	0.30	A
56	Ann Ny Acad Sci	USA	9	0.30	A
57	Cytogenet Cell Genet	Switzerland	9	0.30	A
58	Evol	USA	9	0.30	A
59	Advan Insect Physiol	UK	8	0.27	A
60	Am Nat	USA	8	0.27	A
61	Natureissenschaften	USA	8	0.27	A
62	Am J Physiol	USA	7	0.23	A
63	Ann Rev Physiol	USA	7	0.23	A
64	Aust J Biol Sci	Australia	7	0.23	A
65	Bull Ent Res	UK	7	0.23	NA
66	Copeis	USA	7	0.23	A

Table 4 (*contd. on page* 360)

Table 4 (*contd. from page* 359)

1	2	3	4	5	6
67	Fed Proc	USA	7	0.23	A
68	Gerontologia	Switzerland	7	0.23	NA
69	Ind J Malaria	India	7	0.23	NA
70	J Cell Comp Physiol	USA	7	0.23	NA
71	Physiol Zool	USA	7	0.23	A
72	Stud Nat Sci	USA	7	0.23	NA
73	Am J Trop Med Hyg	USA	6	0.20	NA
74	Appl Ent Zool	Japan	6	0.20	NA
75	Arch Hydrobiol	W Germany	6	0.20	NA
76	Biochem Pharmacol	USA	6	0.20	NA
77	Cytologia	Japan	6	0.20	A
78	Human Genet	USA	6	0.20	A
79	Ind J Entomol	India	6	0.20	A
80	J Anat	UK	6	0.20	NA
81	J Biophys Biochem Cytol	—	6	0.20	NA
82	J Clin Endocrinol	USA	6	0.20	A
83	J Exp Med	USA	6	0.20	NA
84	J Histochem Cytochem	USA	6	0.20	A
85	J Physiol	UK	6	0.20	NA
86	Med Trop	France	6	0.20	NA
87	Neuroendo Crinol	Switzerland	6	0.20	NA
88	Prog Brain Res	USA	6	0.20	NA

Table 4 (*contd. on* 361)

Table 4 (*contd. from page* 360)

1	2	3	4	5	6
89	Syms Biol Hung	Hungary	6	0.20	NA
90	Acta Biol Acad Sci Hung	Hungary	5	0.17	NA
91	Ann Rev Biochem	USA	5	0.17	A
92	Arch Biochem Biophys	USA	5	0.17	A
93	Can J Genet Cytol	Canada	5	0.17	NA
94	Eur J Biochem	USA	5	0.17	A
95	Genet Res	UK	5	0.17	A
96	Agr Food Chem	USA	5	0.17	NA
97	J Cell Physiol	USA	5	0.17	A
98	J Comm Dis	India	5	0.17	NA
99	J Gen Physiol	USA	5	0.17	A
100	J Inter discipl Cycle Res	Netherland	5	0.17	NA
101	J Res Leprd	USA	5	0.17	NA
102	J Steroid Biochem	USA	5	0.17	NA
103	Proc Koninki Nederi Akad	Netherland	5	0.17	A
104	Prog Reprod Biol	—	5	0.17	NA

origin, number of times cited, percentage and availability (in Delhi University Science Library).

4.4.1 *Analysis of Ranked List*

The periodicals listed in the table may be considered the preferred media for the reporting of new zoological knowledge. The list can be regarded free from any national or regional bias as it has been prepared on the basis of citations.

On the basis of study, the total number of periodical publications cited comes to be 355, i e, the total periodical citations given by research

scholars in their theses have been given out of 355 periodical publications. Out of these 355 periodical publications, 104 titles are such which have been cited 5 times or more. The bulk of 251 titles referred to by the research scholars fall in the category which have been cited 4 times or less.

4.4.2 *Inferences*

(i) It has been observed from rank list that some of the highest cited journals are from the field of *endocrinology* (rank nos. 1, 4, 8) and from the field of *entomology* (rank nos. 2, 3, 7).

(ii) The periodical entitled "General and Comparative Endocrinology" occupied the top position in the list. The reason for this may be its maximum coverage or it may reveal that at present the trend of research or the emphasis on research is in the area of endocrinology.

(iii) A journal from the field of general science namely *Nature* comes 5th in rank. It may indicate that the journal 'Nature' may devote a major portion of its space for field of Zoology.

(iv) It may also be pointed out that out of 104 periodicals 34 are not available in the Delhi University Library System. The journals which have been cited for more than 1% of total citations and not on Delhi University Library's subscription list are Bulletin of World Health Organisation and Mosquito News, which can be considered by the library for acquisition on priority basis (The subscription cost of these two 'not available' journals comes to Rs 935.00 per anum.)

(v) It is significant that no Indian journals occupied any position up to first 38 ranks. Most of the titles in rank order belong to United States of America (approx. 70%). Second number is of Great Britain (15%). This shows importance of journals published in USA.

Only 5 Indian periodicals were able to get included in above rank list. Their percentage of citations to total citations is only 2%.

4.5 Trends and Areas of Research Studies

On the basis of this citation analysis study it is possible to determine trend and areas in which the research is being conducted in the Department of Zoology, University of Delhi in recent times by examining the rank order of periodicals pertaining to specific sub-fields (Table 5).

4.6 Subject Dispersion of Cited Periodical Titles

Through the technique of citation analysis it is also possible to reveal the different pattern of subject dispersion in the periodical titles cited by source theses. Table 6 shows subject dispersion of periodical publications cited in source theses.

Table 5 : Trends and Areas of Research Studies

Rank	*Subject area of periodicals*	*Number of citations*	*Percentage*	*Number of journals covered and their rank in bracket*
1	Entomology	379	12.7	Six (2, 3, 7, 14, 19, 26)
2	Endocrinology	284	9.5	Three (1, 4, 8)
3	Biochemistry	174	5.9	Four (12, 14, 20, 21)
4	Physiology	149	5.0	Two (3, 12)
5	Cell Biology	138	4.7	Three (9, 16, 23)

Note : Table 5 is prepared on the basis of first 26 periodicals (which are cited 30 times or more i e, approx 1 percent of total citations) in rank order list.

Table 6 : Subject Dispersion of Periodical Publications Cited in Source Theses

Number	*Subject area of periodical*	*Number of titles*	*Percentage*
1	Zoology	212	59.7
2	General Science	33	9.3
3	Biology	28	7.9
4	Medical Sciences	26	7.3
5	Biochemistry	20	5.6
6	Agriculture	8	2.3
7	Biochemistry-Biophysics	8	2.3
8	Chemistry	7	1.9
9	Pharmacology	6	1.7
10	Health Sciences	3	0.8
11	Physics	2	0.6
12	Dairy Sciences	1	0.3
13	Veterinary Sciences	1	0.3
	TOTAL	355	100.0

Table 7 : Countrywise Dispersion of Cited Periodicals*

Rank Number	*Country*	*Periodical Publications*	*Percentage*
1	United States	153	53.0
2	England	44	15.3
3	India	16	5.6
4	Japan	14	4.8
5	Netherland	12	4.2
6	Switzerland	10	3.6
7	Canada	8	2.9
8	France	6	2.0
9	Germany	4	1.5
10	Australia	3	1.0
11	Denmark	3	1.0
12	Sweden	3	1.0
13	Hungary	2	0.7
14	Italy	2	0.7
15	Bulgaria	1	0.3
16	Congo	1	0.3
17	Ireland	1	0.3
18	Israel	1	0.3
19	Mexico	1	0.3
20	Norway	1	0.3
21	Pakistan	1	0.3
22	Poland	1	0.3
23	United Nations	1	0.3
	TOTAL	289	100.0

*Only English language periodicals are considered.

6.1 *Analysis*

Serial titles cited by the source theses were drawn from biological sciences, medical sciences, biochemistry, agriculture, pharmacology, veterinary sciences and even from physics and dairy sciences.

It has been noticed from Table 6 that zoological research literature scattered among twelve related fields besides zoology. Though major portion of literature (approx. 60%) belongs to zoological sciences but about 40% periodical titles were drawn from either general sciences or from other branches of science.

It can be said, therefore, that zoological research is not restricted to only zoological literature but literature from other disciplines are also warranted by researchers.

On of the conclusions which we can draw from this finding is that the fragmentation of library holdings on the basis of departmentalization is not likely to be conducive to conduct research in the field of sciences.

4.7 Countrywise Dispersion of Periodicals

The purpose to determine geographic origins of periodical titles is to identify possible national bias by source documents. Table 7 shows the countrywise dispersion of periodicals cited in source theses.

It has been revealed from the table that more than half of the periodical titles were published in United States (53%), next comes England with 44 titles (15.3%). India with 16 titles (15.6%) occupied 3rd position in the list. Among international organisations, United Nations contribute one title.

4.8 Languagewise Distribution of Periodical Titles

Table 8 illustrates that out of 345 total periodical titles, 307 English titles were cited in source theses which account to 89 percent while rest of the titles numbered 37 (11%) scattered in four languages namely German, French, Italian and Russian.

Table 8 : Languagewise Distribution of Cited Periodical Titles

Rank Number	*Language*	*Number of Periodical titles*	*Percentage*
1	English	307	89.0
2	German	27	7.8
3	French	9	2.6
4	Italian	1	0.3
5	Russian	1	0.3
	Total	345	100.0

Table 9 : Half Life of Core Periodicals

Rank Number	*Name of Periodical*	*Number of citations*	*Half cita-tion*	*Duration of citations*	*Half Life* in years
1	Gen Comp Endocrinol	149	75	1960-1982	11
2	J Econ Ent	104	52	1917-1980	16
3	J. Ins Physiol	96	48	1957-1980	11
4	Endocrinology	76	38	1942-1980	9
5	Nature	72	36	1947-1980	16
6	Bull World Health Org	65	33	1954-1981	16
7	Mosquito News	62	31	1952-1981	14
8	J Endocrinol	59	30	1951-1980	8
9	J Cell Biol	56	28	1963-1981	14
10	Anatomical Record	55	28	1942-1980	13
11	Cana J Zool	53	27	1953-1981	6
12	Comp Biochem Physiol	53	27	1963-1981	10
13	J Reprod Fertil	51	26	1960-1980	9
14	Ins Biochem	49	25	1971-1980	5
15	Science	49	25	1937-1980	14
16	Chromosome	48	24	1955-1980	8
17	J Exp Zool	48	24	1907-1980	15
18	Biol Record	45	23	1969-1980	4
19	Ent Exp Appl	38	19	1959-1980	10
20	Biochima et Biophy Acta	36	18	1955-1980	9
21	J Biol Chem	36	18	1925-1980	11
22	J Protozool	36	18	1959-1980	10
23	Exp Cell Res	34	17	1952-1980	10
24	Nat Acad Sci Proc	34	17	1941-1980	7
25	Amer Zool	32	16	1901-1980	7
26	Ent Soc Amer Annals	30	15	1920-1980	17

*Periodicals cited 30 times or more.

4.9 Half Life of Periodicals

Table 9 shows the half life of first 26 periodicals in rank list (having 30 citations or more, i e, approx 1% of total citations). Half life varies between 5 years (of Insect Biochemistry) to 17 years (of Annals of Entomological Society of America). Citations of Insect Biochemistry cover period 1971-1980, while Annals of Entomological Society of America covers period 1920-1980 (60 years).

5 CONCLUSION

The technique described has as its major thrust, the result of predicting collection demand with efficiency and economy but this is not without certain limitations which should be recognised. In all respects this technique is quantitative, not qualitative. No assessment is made of the quality, utility or informational value of the individual articles or serials used or identified by applying the technique described. One should understand that the pool of citations drawn from source theses is subject to bias in favour of those titles which are more frequently in publication and which contain the greatest number of articles.

Despite the limitations of this technique, this study has several implications of possible value for the library managers in the areas of library organization and management particularly with respect to acquisition policy formulation,

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COLLECTION DEVELOPMENT : A CASE STUDY

J C TANDON

1 INTRODUCTION

There are several book selection tools. These include Indian and Foreign publishers' lists/catalogues, reviews appearing in books, reviewing journals, newspapers, periodicals, lists of new and recent books issued by societies, libraries and other bodies. Some of the major tools include *Cumulative Book Index, British National Bibliography,* and *British Book News* etc. Though *Bookseller* is mainly meant for book-sellers, publishers and their agents, yet it provides mine of information about British publishing plans to the librarians also. *Bookseller* is considered to be the most important selection tool by the librarians, as it gives advance information on the forthcoming publications and the Indian universities depend upon this source for collection development programme. It is for this reason that *Bookseller* Autumn Books issue 1984 is taken as a case study for collection development programme, especially in the social sciences field for the Jawaharlal Nehru University Library. The number of selected publications is 537 and these publications belong to 46 prominent publishers. The selection may be considered adequate for any university library.

2 BOOKSELLER

The autumn 1984 issue of *Bookseller* consists of 849 pages, containing advertisements of new and forthcoming publications to be brought out by ninety-two publishers. The editorial pages of this issue are intended as selective guide to the best books available in each category listed in the contents. The advertisements start on page 233. Index to advertisers is on page 848. The index of books announced in the advertisements, under author and title, appears on page 747. The autumn issue is devoted to books scheduled to appear between the period August 1984 and January 1985. It also covers publications of American publishers that are reprinted by British publishers or brought out by their British subsidiaries.

3 PURPOSE

The purpose of this brief paper is to have an idea of the cost of collection development, with special reference to social science subjects, to study the price structure and to try to ascertain the upward price trends. A limited number of books in other disciplines have also been taken into consideration of purposes of this survey. In any case *Bookseller* has limited coverage of titles in the humanities and sciences. The social sciences have been divided into two convenient divisions, i e social sciences subjects and area studies, keeping in view the structure of courses taught at the Jawaharlal Nehru University.

4 SCOPE

537 titles have been selected for collection development as a sample. 369 titles relate to social science subjects, covering economics, education, geography, history, international diplomacy, international economics, international law, international politics, library science, political science, reference, regional development studies, science policy and sociology. The maximum number of titles relate to economics. The total number of titles covered under area studies are 139. The maximum number of titles under this group relate to West Asian studies followed by Soviet and East European studies. Humanities cover 27 titles only. The subjects included are English, French, German studies, linguistics, philosophy and fine arts. Two titles belonging to science group pertain to computer science. The selection of only two titles in science group is an indication of the fact that science publications are not advertised adequately in *Bookseller*.

5 ANALYSIS

1 The total number of titles is 537.The cost of 537 titles is £ 10,508.35. Average cost of title works out to £ 19.57;

2 the total number of titles under social science subjects is 369, costing £ 7,731. It works out to 73.57 percent of the total cost, i e £ 10,508.35. Average cost works out to £ 20.95;

3 the total cost of 139 titles under area studies group is £ 2,319.55. It works out to 20.07 percent of the total cost of 537 titles. Average cost works out to £ 16.68;

4 The 27 titles belonging to humanities cost £ 350.05. It works out to 3.33 percent of the total cost of 537 titles. Average cost works out to £ 12.96. Total cost of two titles under science group is £ 107.75. It works out to 1.03 percent of the total cost of 537 titles. Average cost works out to £ 53.88. The average cost of books in the humanities and sciences is certainly not representative due to the small sample;

5 titles brought out by Jane on an average cost £ 59.75. Titlesb rought out by Zed on an average cost £ 7.40. On an average a reference title costs £ 45.02;

6 most frequently occurring price of a title under subjects' group is £ 16.87, whereas under publishers' group it is £ 14.17;

7 seventy-five titles have been repeated in Spring and Autumn 1984 issues of the *Bookseller*, costing £ 1,671.85, i e 15.91 percent of the total cost of 537 titles. Twelve such titles belong to the subject "Reference", costing £ 696.95, i e 6.63 percent of the total cost of 537 titles. Twenty-one such titles belong to the publishers "Croom-Helm", costing £ 354, i e 3.37 percent of the total cost of 537 titles. The broad break down of the 75 titles is: 59 titles belong to social science subjects, 14 titles belong to area studies and 2 titles belong to humanities. The cost-wise break down is : social sciences £ 1,414.70, area studies £ 231.30 and humanities £ 25.95 respectively. The break-down percentage-wise is : social science 13.46 percent, area studies 2.2 percent, and humanities 0.25 percent of the total cost of 537 titles;

8 average increase in cost ranges from 0.42 percent to 571.5 percent. But the data cannot be taken on their face value as these have been worked out on actual basis for the period July-December 1982 (from *Bookseller*) and on the basis of this sample survey for the period August 1984-January 1985. The figures for the later period could not be had on actual basis; and

9 The cost of 462 titles (actual titles minus repeated titles) is £ 8,836.50, i e 84.09 percent of the total cost of 537 titles. Thus, this collection development programme will cost £ 8,836.50 on the basis of single copy per single title.

6 CONCLUSION

1 The social sciences collection programme, including area studies, covers 435 titles (actual minus repeated, i e 508 − 73 = 435);

2 the cost of 435 titles works out to £ 8,414.65;

3 the social sciences collection development programme for the Jawaharlal Nehru University Library will therefore cost £ 8,414.65 on the basis of single copy per single title;

4 in case it is decided that there should be more than one copy for certain titles, the cost of the collection development will further increase proportionally, depending upon the number of additional copies required for certain titles;

5 the average cost per title for 435 titles works out to £ 19.34. Most frequently occurring price of a title under subjects' groups is £ 16.87, whereas under publishers' group it is £ 14.17. On an average a reference title costs £ 45.02; and

6 the figures data in the above paras can help the librarians in working out the cost of suitable collection development programme for their libraries, depending upon the budgets allocated to their libraries.

APPENDIX I : SUBJECTWISE COSTS

Table 1 : Subjectwise Cost of Books in Group A—Social Sciences

S No	*Subject*	*Number of titles*	*Cost in £*	*Average cost in £*
1	Regional Development	17	217.35	12.78
2	Education	34	473.15	13.92
3	Sociology	37	545.55	14.74
4	History	33	24.05	15.88
5	Political Science	40	667.90	16.70
6	European History	23	402.50	17.05
7	Science Policy	27	481.25	18.12
8	International Economics	36	694.00	19.26
9	Economics	52	1,078.05	20.73
10	Reference	47	2,115.85	45.02
11	Other Subjects	23	531.35	23.10

Total number of titles = 369
Cost of total number of titles = £ 7,731.00
Avarage cost per title = £ 20.95

Table 2 : Subjectwise Cost of Books in Group B—Sciences

Subject	*Number of titles*	*Cost*	*Average cost*
Computer Science	2	£ 107.75	£ 53.88

Total number of titles = 2
Cost of 2 titles = £ 107.75
Average cost per title = £ 53.88

Table 3 : Subjectwise Cost of Books in Group C—Area Studies

S No	*Subject*	*Number of titles*	*Cost in £*	*Average cost in £*
1	African Studies	12	120.40	10.03
2	Soveit and East European Studies	35	520.45	14.87
3	American Studies	18	282.70	15.70
4	East Asian Studies	17	281.80	16.58
5	South Asian Studies	4	70.45	17.61
6	South-East Asian Studies	15	285.75	19.05
7	West Asian Studies	38	758.00	19.95

Total number of titles = 139
Cost of total number of titles = £ 2,319.55
Average cost per title = £ 16.68

Table 4 : Subjectwise Cost of Books in Group D—Humanities

S No	*Subject*	*Number of titles*	*Cost in £*	*Average cost in £*
1	English	15	184.60	12.31
2	Fine Art	3	38.10	12.70
3	Philosophy	2	26.50	13.25
4	French Language/Literature	5	82.90	16.58
5	Indian, German Language/Literature	2	17.95	8.97

Total number of titles = 27
Cost of total number of titles = £ 350.05
Average cost per title = £ 12.96

GRAND TOTAL

Total number of titles = The Sum of Groups A + B + C + D
= 537
Cost of total number of titles = £ 10,508.35
Average cost per title = £ 19.57

APPENDIX 2 : PUBISHER WISE COSTS

Table 5 : Publisherwise Average Cost of Books

S No	*Publisher*	*Number of titles*	*Cost in £*	*Average cost in £*
1	Zed BKS	9	66.60	7.40
2	I L O	10	86.10	8.61
3	Michael Joseph	5	18.90	9.45
4	Edward Arnold	5	47.70	9.54
5	Lawrence and Wishert	3	29.45	9.82
6	Verso	5	50.30	10.06
7	Chambers	3	30.45	10.15
8	Francis Peter	10	107.90	10.79
9	Indian University	5	57.00	11.40
10	George Allen and Unwin	34	404.00	11.85
11	Blackwell	52	710.05	13.65
12	Harvard	6	79.20	13.20
13	Heinmann	8	111.70	13.96
14	Bodley Head	3	42.80	14.27
15	Harrap	3	44.95	14.98
16	Leicester University	4	60.95	15.24
17	Weidenfeld and Nicolson	3	45.90	15.30
18	Routledge Kegan Paul	22	350.55	15.93
19	Manchester University Press	8	129.50	16.19
20	Macmillan	82	1,416.25	17.27
21	Hopkins	14	258.65	18.48

Appendix 2 (*contd. on page* 261)

Appendix 2 (*contd. from page* 260)

22	Yale University Press	7	131.45	18.78
23	Croom Helm	95	1,806.50	19.02
24	Frank Cass	9	171.50	19.06
25	University of Chicago Press	10	209.65	20.97
26	Mouton	3	63.20	21.07
27	Athlone	4	86.00	21.50
28	University of Calfornia	16	349.80	21.86
29	Al-Saqi	2	45.00	22.50
30	Cambridge	12	271.80	22.65
31	Harvester	15	377.70	25.18
32	Aslib	3	98.00	32.66
33	Sweet and Maxwell	6	210.95	35.16
34	Longman	5	201.45	40.29
35	Bowker	33	1,340.70	40.63
36	Europa	7	324.00	46.29
37	Melrose	6	320.50	53.42
38	Jame's	2	119.50	59.75
39	Other Publishers	8	231.75	28.97

Total number of titles = 537
Cost of total number of titles = £ 10,508.35
Average cost of a title = £ 19.57

APPENDIX 3 : FREQUENCY OF PRICES ON THE BASIS OF SUBJECT AND PUBLISHER

Table 6 : Most Frequently Occurring Price of a Title (Subject Groups) on the Basis of Average Cost per Title under Different Subject Groups

Class Interval in £'s	*Frequency*	*Cummulative Frequency*
10-15	3	3
15-20	6	9
20-25	1	10
25-30	0	10
30-35	0	10
35-40	0	10
40-45	0	10
45-50	1	11

Modal Value = Most Frequently Occurring Value

$$M = L + \frac{fm - fp}{2fm - fp - fs} \times i,$$

where,

L = Lower unit of modal class (class with maximum frequency);

fm = frequency of modal class;

fp = frequency of preceding class to modal class;

fs = frequency of succeeding class to modal class;

i = class width = range of class interval;

$L = 15,\ fm = 11,\ fp = 10,\ fs = 3,\ i = 5;$

$$M = 15 + \frac{6-3}{2 \times 6 - 3 - 1} \times 5 = 15 + \frac{15}{8}$$

$$= 15 + \frac{15}{8} = \frac{135}{8} = £\ 16.87$$

Table 7 : Most Frequently Occurring Price of a Title on the Basis of Average Cost Per Title under Publishers' Group

Class Interval in £	*Frequency*	*Cumulative Frequency*
5-10	5	5
10-15	10	15
15-20	9	24
20-25	6	30
25-30	2	32
30-35	1	33
35-40	3	36
40-45	1	37
45-50	0	37
50-55	1	38
55-60	1	39

Applying the same formula as in Table 6, we have

$$\text{Most frequently occurring price} = 10 + \frac{10 - 5}{2 \times 10 - 5 - 9} \times 5$$

$$= 10 + \frac{25}{6} = \frac{85}{6}$$

$$= £\ 14.17$$

APPENDIX 4 : BREAK UP OF REPEATED TITLES

Table 8 : Titles Repeated in Spring and Autumn 1984 Issues of Bookseller—Subject-wise

Sl No	*Subject*	*Number of titles repeated*	*Cost in £*	*Average cost in £*
1	*2*	*3*	*4*	*5*
	Group A—Social Sciences			
1	International Diplomacy (3)	1	5.95	5.95
2	Social Science (2)	2	14.45	7.23
3	Geography (1)	1	8.95	8.95
4	International Law (6)	2	21.95	10.98
5	Science Policy (27)	3	35.90	11.97
6	Economics (52)	5	61.35	12.27
7	Sociology (37)	6	74.80	12.47
8	Education (34)	7	91.65	13.10
9	Internanational Politics (7)	1	13.95	13.95
10	Regional Dev. (17)	4	57.80	14.45
11	History (33)	2	33.95	16.98
12	European History (23)	4	74.45	18.61
13	Political Science (40)	6	118.35	19.73
14	International Economics (36)	3	104.25	34.75
15	Reference (47)	12	696.95	52.08
	TOTAL	59	1,414.70	
	Group C. Area Studies			
1	East Asian Studies (17)	1	8.95	8.95

Appendix 4 (*contd. on page* 265)

Appendix 4 (*contd. from page* 264)

1	*2*	*3*	*4*	*5*
2	South Asian Studies (4)	2	23.45	11.73
3	Soviet and East Eroupean Studies (35)	4	58.40	14.60
4	West Asian Studies (38)	5	92.90	18.58
5	African Studies (12)	1	22.50	22.50
6	American Studies (18)	1	25.00	25.00
	TOTAL	14	231.20	
	Group D. Humanities			
1	English Lang./Literature (15)	1	9.95	9.95
2	Philosophy (2)	1	16.00	16.00
	TOTAL	2	25.95	

Table 9 : Titles Repeated in Spring and Autumn 1984 Issues of Bookseller—Publisherwise

Publisher	*Number of titles repeated*	*Cost* (in £)	*Average cost* (in £)
Duckworth (1)	1	5.95	5.95
Manchester Univ Press (8)	2	15.00	7.50
Edward Arnold (5)	1	9.95	9.95
Melrose (6)	4	195.50	48.88
George Allen and Unwin (34)	10	116.25	11.63
I L O (10)	3	37.20	12.40
Sweet and Maxwell (6)	4	51.45	12.86
Macmillan (82)	11	171.10	15.60
Weidenfeld and Nicolson (3)	2	32.95	16.48
Croom-Helm (95)	21	354.00	16.86
Frank Cass (9)	4	77.50	19.38
Blackwell (52)	1	19.50	19.50
Athlone (4)	2	41.00	20.50
Heinemann (8)	1	22.50	22.50
Routledge and Kegan Paul (22)	2	48.00	24.00
Europa (7)	4	244.00	61.00
Bowker (33)	2	230.00	115.00
TOTAL	75	1,671.85	

APPENDIX 5 : INCREASE IN COST OF BOOKS

Table 10 : Publisherwise Increase in Average Cost of their Books during July-December 1982 and January 1985

S No	Publisher	*Average cost (July-Dec, 1982) (Bookseller) (Actual)* (in £)	*Average cost (August 1984-January 1985) (Bookseller) (Based on sample Study)* (Cost £)	*Increase in cost* (in %)
1	*2*	*3*	*4*	*5*
1	Duckworth	10.77	5.95	—
2	Zed BKS	10.54	7.40	—
3	Michael Joseph	9.84	9.45	—
4	Francis Peter	-NG-	10.79	—
5	Indian University	11.56	11.40	—
6	Hopkins	-NG-	18.48	—
7	Yale University Press	19.36	18.78	—
8	Leicester University	17.92	15.24	—
9	Frank Cass	-NG-	19.06	—
10	Mouton	29.91	21.07	—
11	Al-Saqi	-NG-	22.50	—
12	Bowker	60.47	40.63	—
13	Melrose	-NG-	53.42	—
14	Gruyter	-NG-	76.00	—
15	H M S O	-NG-	95.00	—
16	George Allen & Unwin	11.80	11.85	0.42
17	Aithlone	20.24	21.50	1.28
18	Verso	9.80	10.06	2.65
19	Europa	44.33	46.29	4.42
20	Harvard	12.63	13.20	4.51

Appendix 5 (*contd. on page* 268)

Appendix 5 (*contd. from page* 267)

1	*2*	*3*	*4*	*5*
21	Manchester University Press	14.81	16.19	9.31
22	Lawrence & Wishert	7.98	9.82	22.8
23	Hamish Hamilton	6.94	8.95	30.31
24	Blackwell	10.39	13.65	31.4
25	Papermac	5.60	7.50	37.5
26	Croom-Helm	13.66	19.02	39.25
27	Weidenfeld and Nicolson	10.95	15.30	40.06
28	Edward Arnold	6.71	9.54	42.17
29	Cambridge	15.51	22.65	47.33
30	ILO	5.70	8.61	54.56
31	University of California Press	14.41	21.86	51.76
32	Harvester	15.96	25.18	57.56
33	University of Chicago Press	13.04	20.97	60.81
34	Routledge and Kegan Paul	9.24	15.93	61.58
35	Norton	10.32	16.95	64.24
36	Sweet and Maxwell	21.08	35.16	66.79
37	Macmillan	10.24	17.27	68.75
38	Collins	5.65	9.95	76.10
39	Chambers	5.28	10.15	92.23
40	Heinnmann	7.34	13.96	97.19
41	Bodley Head	6.12	14.27	133.00
42	BBC	4.63	10.95	136.50
43	Aslib	11.80	32.66	176.01
44	Jame's	21.63	59.75	177.77
45	Harrap	4.57	14.98	227.85
46	Longman	6.00	40.29	571.05

COLLECTION DEVELOPMENT IN COLLEGE LIBRARIES—NEED FOR A POLICY : OBSERVATIONS AND SUGGESTIONS

J K ANAND

1 INTRODUCTION

Acquisition of books and journals is the fundamental function of a library because no service to the readers can flow without acquisition. The basic aim of a library should be to build up a collection which is dynamic and capable of meeting the changing needs and demands of present as well as future users. The phenomenal growth of reading materials and the scarce funds at the disposal of the libraries call for pick and choose. It is generally agreed that the present methods of book selection in college libraries are full of faults. The majority of the teachers who select books for college libraries have little time and inclination to do justice to their job. They are not ready to take up full responsibility to build up sound departmental collections. No collection developmental policy has ever been formulated for the guidance of teachers and librarians for proper book selection and collection building in the college libraries. It is universally conceded that the quality of collections in college libraries is worsening day by day. As a result the libraries are finding it difficult to perform their basic function of serving the needs of their users.

2 OBJECTIVES OF THE STUDY

A proper study of collection development in a particular type of libraries cannot be complete without examining in detail the book selection and acquisition practices prevailing in that particular kind of libraries. It was, therefore, decided to investigate and determine the existing situation with regard to book selection and acquisition prevalent in Delhi University colleges. An attempt, therefore, has been made here to describe

dors, the whole process of book selection and acquisition in the colleges has become a mockery. Many colleges librarians concede that the quality of collections in the college libraries is being affected by extraneous currents and pressures. An attempt has been made below to enumerate such acquisition practices :

(i) It has been revealed by the present study that the most prevalent method of book selection in almost all the colleges is that large bundles of books are brought by the booksellers from their shops. The books are selected out of those bundles by the teachers and the booksellers are asked to deliver the selected books to the library along with necessary bills for payment.

It is estimated that more than 60 percent of the books which are acquired by the college libraries are selected in this way. The librarians are not given even an opportunity to sort out the duplicates. As a result many good books, as well as the ones which are in great demand by the users, are left out and many unwanted and worthless books are added to the library collections. A large number of librarians conceded that the majority of books acquired under this method are never borrowed and remain on the shelves untouched by anybody. Thus huge wastage of precious library funds takes place. Such haphazard purchases only increase the quantity of unused books.

(ii) Another method of book selection prevalent in the college libraries is that the books are received by the libraries on approval basis from various booksellers/publishers. The teachers select books out of such books and the dealers are asked to deliver the selected books to the library along with necessary bills. It has generally been observed by the librarians that the books received on approval are never examined by the concerned teachers in a proper manner and the same are also ordered to be purchased outright.

(iii) A large number of books in the college libraries are purchased in consideration for the complimentary copies received by the concerned heads of departments, regardless of the fact whether the books are useful or not.

(iv) It has also often been observed by the library staff working in the college libraries that specimen copies received by the teachers are supplied to their own college libraries with the connivance of unscrupulous booksellers.

(v) In the same way it has also been noticed by the staff working in college libraries that specimen copies received by the teachers gratis from the publishers are purchased at half rates by dishonest booksellers and the same are sold by them to the libraries at the printed rates. Thus immoral contacts between the faculty and the

vendors lead to ineffective library service to the users.

(vi) Multiple copies of substandard text-books and non-textbooks written by the teachers working in same or other colleges are purchased in bulk merely to oblige the authors.

(vii) Sometimes books purchased by the teachers from book bazars or footpaths at highly discounted prices find their way to the libraries with the connivance of unscrupulous booksellers. In this way both the vendors as well as dishonest teachers earn huge profits at the cost of users.

(viii) It is also a general practice that the teachers purchase very costly books for the sake of their own personal needs ignoring the need of purchasing much needed text books required by the students.

(ix) Sometimes even the books which are not in any way concerned with teaching in the institution are merely purchased by the concerned incharges to please their university heads of departments or their research guides.

(x) There are also instances where the concerned teachers purchase the books of a particular publisher or bookseller, without considering their utility, in consideration for getting their own thesis or books published or sold by the dealers concerned.

(xi) A majority of the college librarians also revealed that most of the departments in their colleges exhaust their book budgets in the first few months of the academic session. As a result they are left with no money to purchase important and much needed publications, relating to the particular departments, coming out in the later part of the year and by the time the funds are again available in the succeeding year, many such important publications go out of print. Thus the haphazard methods of book purchases create many gaps and lead to unplanned growth of library collections.

5 THE NEED FOR A COLLECTION DEVELOPMENT POLICY

There is an immediate need for college libraries to adopt a collection development policy bearing in mind their peculiar problems with regard to increasing lack of space, limited budgets and inadequate staff. A written collection development policy statement becomes an indispensable tool because it enables the book selectors to work with greater consistency towards defined goals. It can also enable them to use limited funds more wisely resulting in stronger collections. Due to ever increasing inflation and decreasing purchasing power of the libraries, it has become necessary for the libraries to develop techniques to ensure that their limited book collections are developed to meet the pressing needs of their users. Moreover the worth of a library collection varies with its extent, utility and uniqueness. The degree to which it constitutes a col-

lection and not merely an accumulation rests, to a large extent, upon following a sound collection development policy which can ensure that the growth of the library collection is organic and purposeful.

The various advantages of having a written collection development may be enumerated as follows :

(i) The most important objective of a collection development policy is that it publicly expresses the relationship of collection development to the objectives of the institution and the needs of the users.
(ii) It provides assistance and support in justifying the selections made for the library.
(iii) A collection development policy helps minimize personal bias on the part of the individual selectors.
(iv) A collection development policy contributes to internal operating efficiency of the library staff because it helps in making routine decisions once and for all and the same need not be considered every time they arise.
(v) A collection development policy helps assure continuity in collections development because library staff members as well as the members of the library committees, who select books, often keep on changing. In this situation a collection development policy serves as a reference tool for new library staff members and the members of the library committees by informing them about the nature and content of existing library collection.
(vi) The policy can also be helpful in determining which materials should be weeded out and/or should be removed from the main collection either for record or for transfer to storage.

6 SUGGESTIONS

(i) The responsibility for many desirable aspects of book selection and collection development should rest on the library staff because they are fully conversant with all important aspects of library's collection.
(ii) A library receives bibliographies, abstracting and reviewing journals, publishers' catalogues, circulars from booksellers, accession lists of important libraries and similar types of materials throughout the year. A college librarian must refer and bring such materials to the notice of subject specialists for their perusal and subsequent recommendation for purchase of titles of special interest to the departments.
(iii) The high rate of non-usage of matrials in college libraries demands a greater interaction between teachers and professional library

staff in the matter of book selection. The librarians, by virtue of their training and experience, are more current about books and their contents than are faculty members. The faculty members, who are primarily engaged in teaching and research, often pursue only one or two areas of interest and as a result are comparatively limited in their ability to assess the overall needs of the library's clientale. On the other hand the librarian and the library staff come into daily contact with the demands of students and teachers relating to availability or non-availability of much needed text books and other types of books and therefore they are in a better position to understand the needs of the users. Therefore the librarian should be authorised to purchase additional copies of text books of various departments which are in great demand at the circulation counter.

(iv) As a matter of fact the recommendations from faculty members regarding book purchases should not be accepted unquestioningly. The same should be subjected to review along with other recommendations by an acquisitions committee comprising librarian, faculty representatives and students.

(v) A college librarian should identify gaps in the existing collections with the help of library staff and bring the same to the notice of departmental representatives to enable them to fill up the gaps in the respective departmental collections.

(vi) There is nothing pragmatic in buying costly hard bound books when the identical texts are available in paper backs. The paper backs may be got bound according to the needs of the library, This would help conserve much precious library funds.

(vii) It is also suggested that out of the funds allocated to various departments, the ratio of the amount to be spent on text-books, reference books and academic journals should more or less be fixed. The suggested ratio is 60%, 20% and 20% respectively.

(viii) A wise provision which can go a long way in ensuring continuity in collection development in various departments is the plan of having a rotation of the departmental representatives after every three years instead of the present system of every year rotation.

(ix) Special attention may be paid to acquisition and retention of periodicals because they accumulate so rapidly. The library staff should carefully decide which periodicals should be retained beyond the current issue, which should be retained for more than one or two years, and which should be bound annually so that retention is less cumbersome.

(x) Libraries have acknowledged the impossibility of building comprehensive collections and will increasingly need to rely on cooperative acquisitions. Resource sharing seems to the only effect-

ive method of meeting minority and occasional requirements of the users.

(xi) In order to keep the collection within a manageable size, the college libraries should adopt a systematic plan of weeding out the collection from time to time.

(xii) The Indian Library Association like its counterpart in USA, the American Library Association, should help framing of guidelines for formulation of collection development policies for adoption in college libraries.

COLLECTION DEVELOPMENT IN COLLEGE LIBRARIES

M ESPERANZA

1 INTRODUCTION

For several years libraries were considered as places to keep books. But today libraries help to serve the needs and purposes of various educational fields. Both the college and the university libraries provide the needed reading materials for advanced education. A modern library can help the readers and the potential users of the library to step into a world of adventure and learning.

A library is a busy workshop where readers of all ages can seek knowledge. A library makes it possible to share the experiences of many other persons by reading about their thoughts and achievements. The books on library shelves give us the ideas and facts that men and women have collected over thousands of years. Libraries are also institutions which provide us with up-to-date information in every field of knowledge with a variety of collection of books, newspapers, magazines, pamphlets, photographs, phonograph records and motion pictures.

The library is sometimes called "The Memory of the Human Race". The library can be compared to a giant brain that remembers all that the scientists, the historians, the poets, the philosophers and many other great intellectuals have thought and learned. A library is a meeting place for the ideas and words of persons who have influenced the world of the past and which influences modern thinking in the world of today. In short, a library is a place where the experience of the past can meet the needs of the present. To be able to find a particular document in its many collections could be compared to finding a buried treasure without a map. Hence, the collections of a library must be so organized as to make possible the finding of any information in the quickest possible way. The use of libraries then is to help readers in their work, in their pleasure and in their leisure.

2 COLLECTIONS IN COLLEGE LIBRARIES

As librarians, let us pause a while and before we consider in detail the aim of collection development in a college library, ask ourselves : 'What is a college library' ? Our college libraries differ from small collections to medium-size collections leading up to fullfledged research libraries. The rare book collections, the special collections and the manuscript collections of some college libraries can be very impressive indeed. The collection of a college library should provide books and other reading materials to meet not only the needs of individual readers but that of classroom work with independent study and research. It is very important for college libraries to have collections of technical books and also books in languages other than that of the place. Although books and magazines make up the major part of the collections of the college library, it goes without saying that these libraries, for the further development of their holdings should also have collections of scholarly journals and serial publications of various governments, manuscripts, micro-films, micro-cards and even micro-prints which are the latest developments in the fields of knowledge, education and technology.

In foreign countries, the college libraries and other libraries, especially the public libraries, are better equipped than those in our own country. These libraries through vast developments in the collections help their readers very much to grow in individual study by having large and spacious reading rooms. To put their collections to the best use for their readers, they organize their reading materials on a divisional basis.

The collections of a college library must be so based as to raise the standard of education in the society which it serves. The documents, must however, meet the increasing demands of the educational society. The need of having sufficient reading materials in a college library or in any library in fact, can never be over-estimated. The efficiency of a good library is measured in its services to the readers, makingavail able the right books at the right time and in the quickest of ways as stated by Dr S R Ranganathan, the father of library science and of the library movement in India. The requirement for an efficient service is a well-selected reading material on a variety of subjects—namely, books or documents which will be understood and read with pleasure by the readers. "Books are for Use" says the First Law of Library Science. But, the use of books lays the stress on the usefulness of the book to fulfill the needs and tastes of the readers using them.

3 ROLE OF LIBRARIANS AND THE LIBRARY PROFESSION

Today, more than ever before, we find that librarianship is a rapidly growing profession. In this period of knowledge explosion, education

has developed to a very great extent. So much so, that we need professionally trained librarians to deal with the development of collections in college libraries. At the same time, in order to be able to work our college libraries efficiently, fulfilling the purpose of their function towards education, there is need not only of trained librarians, but librarians who are dedicated to their work, librarians who are selfless in their self-giving to their readers, and above all, librarians who enjoy working with people and books.

Modern library collections call for a librarian who not only loves books and keeps them in order on the shelves but one who is a good administrator having the ability and the capacity to interpret many and different types of information and is able to maintain good public relations; one who can organize the various library activities and manage the library personnel. An able librarian must also have some knowledge of child psychology, which enables one to deal with all sorts of character traits of the college readers. In a word, a modern librarian needs to be energetic, enthusiastic and imaginative. Librarians in modern libraries must possess the initiative to be able to adjust to the changing conditions of the readers, of work, and, of the society at large. They must be willing to learn and adopt the new techniques and be dedicated to service. In order to bring people and books together, one must know the art of doing it. Today, an efficient librarian can find many rewarding opportunities in modern libraries.

If one analyzes the publications in Indian languages in our own country, one finds that more importance is given to the lighter fictional reading material than to science, technology, economics, etc. One of the reasons may be that the booksellers get more profit from cheaper Indian editions. It is said that reading begets reading. The more one reads, the more one gets an appetite to read yet more, and for this reason it is necessary that in college libraries efforts be made to create curiosity among readers and lead them to better reading habits.

4 SURVEY OF COLLEGE LIBRARIES IN BIHAR STATE

Here I would like to share some insights I have had from the survey made in some of the college libraries of Bihar State together with my experience of working in our college library at Patna Women's College.

In Bihar State we have eight universities and about four hundred college libraries. Excepting a few, most of these libraries are run very poorly with no proper qualified staff. The documents are not often updated to meet the needs of the students and subject teachers. There is no provision for readers to study or read at leisure. Many of these libraries are like stacking places and one has to go through a lot of searching before one can discover the material one needs. Also, these libraries are poorly

managed due to untrained hands and the non-capability of the librarians to meet the changing needs of the time. The documents on the shelves are allowed to remain uncared for and collecting dust for months together. No trouble is taken either to arrange the stock in an orderly manner to facilitate the readers to find their material.

The Rajendra Agricultural University at Pusa has under its control ten colleges. Five of these colleges have good libraries and are run quite efficiently with a well qualified staff serving their readers.

Under the Patna University however, there are twelve colleges. Out of these, ten colleges are constituent colleges. The two other colleges added under its control are—the Patna Institute of Music and the transferred Government College of Arts and Crafts which conducts the diploma courses. The new latest feature in the Patna University is, that it has opened a Department of Library and Information Science. Here the bachelor course of library science is conducted since the last three years. So far only one batch of the year 1981-1982 has completed the course. The department is at present managed very poorly for want of full-time trained teachers, due to lack of financial aid. The patna University also conducts the post-graduate courses in various subjects. Among its colleges just two or three colleges conduct the post-graduate courses. The libraries of these Departments too are poorly maintained. From the detailed survey made of the college libraries under the Patna University we find that six colleges have really good libraries, but, they are poorly managed due to being understaffed and not having enough trained hands to run them efficiently. On the whole, all the libraries of Bihar State and especially those of Patna and Pusa where the survey has been made in detail are very much handicapped due to lack of financial aid both as regards the collection development and trained personnel. Hence, the need of funds for collection development and employment of trained personnel in these libraries is very imperative in the backward state like Bihar.

The Patna Women's College which is a constituent college of the Patna University, is one of the best colleges of the Patna University. It is a rewarding experience to see the increase in the number of students and their increasing demands for the use of reading materials in the library. The new library block of the college is just three years old, but it has made an immense progress which proves the fact, that the library is a growing organism. When the block was in its building stage, all those who saw it remarked that it was a waste of space to put up such a big block for a college library. But today, within three years of its completion, there is a continual request to extend the library building as it cannot hold all the college students even in the large reading room. The day hours are crowded with students with the result that the library staff of six assistants is not enough to attend to the needs of these readers.

Besides, as I have already stated, a librarian is not an efficient librarian by the stock of books in the library. The efficiency of a librarian and the library staff is measured by the use to which this stock of documents is put. To do this, the librarian has to be alert to sense the needs of the readers, to sort out their demands and provide a variety of ways and means to create reading habits. For the last three years, I have been having various library activities to make our students book conscious. We conduct various kinds of book exhibitions, have talks, displays of attractive books, attract books through captions, quizzes, highlighting of various subjects, and to add to this, we arrange for yearly book-sellers' exhibitions. Both, our students and college teachers, profit a great deal from all this, especially the booksellers' exhibitions. Our teachers often say that the library activities conducted in the college help them to be active with their teaching and, awakens them at making a greater effort at being better teachers. What I myself have learnt from these library activities is, that it is a very big education that we can thus give our students through them. It makes the students think much and be more determined in choosing their reading materials. They learn to grow as individuals and begin or learn to see and appreciate books better.

Today, I can proudly say that the students of Patna Women's College value greatly the services given them in the library. They have also learnt the value of silence in the silent atmosphere of the library. They have come to realize that silence is very necessary both for study and for concentration. At first, they rebelled very much at having to keep silence. Today, it is a joy to see them moving about in the library like great intellectuals and helping to create the silent atmosphere that exists and which tempts them, I Must say, to spend hours reading in the library. To many of our students now, reading has become a pleasant hobby. It is not an easy task to obtain this effect. Let me say from my own experience that one has to go through a lot of tension and anxiety in planning a new vision each day and of newer ways to attract the students into the library.

It is not extensive funds nor is it an extensive collection that is needed to make the collection in college libraries living and active. It is the enthusiasm and the untiring services of the personnel in the library through giving of themselves to the readers in their gentle and understanding manner together with the personal human touch with the readers that can make the library a joyful and a peaceful place where the students love to spend hours at a time in a very profitable manner.

5 LIBRARY STAFF AND LIBRARY SERVICES

On the other hand, to have a better collection in our college libraries, the staff employed should be trained and this training must be an on-going process. They should be given opportunities for improving their qualifica-

tions. They should be encouraged to attend seminars and refresher courses where they receive fresh incentives and guidelines for better work and better services. The librarians themselves must have the aptitude to keep abreast of the fast changes that take place in the various fields of knowledge, learn new techniques and keep themselves open to the modern quick ways of making their services available to the readers, especially with the use of computers and other modern gadgets of communication media. It is true, we need large funds to make our college libraries what they should be if our Indian society is to improve. For this advancement we need the help of the government and that of the UGC in giving the library staff better scales of pay. Very often our libraries are not working on an efficient basis because the right type of personnel is not involved in library work. For collection development in college libraries there should be trained technical experts who are able to organize the library services in an efficient manner.

Education for librarianship is very necessary in order to have collection development in college libraries. Every librarian has to make a self-effort to be dynamic and educate oneself through much reading and learning of newer methods, newer techniques, attractive and winning ways to invite readers into the library, and, use newer informational services which involve an increasing use of mechanical devices for storage, retrieval and dissemination of knowlege. To stop library education would be to stagnate in a closed cell against the free flow of fresh ideas. In this area, we owe thanks to UGC which is doing a lot to raise the standard of our college library collections through special grants for the purchase of books.

6 IMPORTANCE OF JOURNALS IN COLLEGE LIBRARIES

The collection of a college library should include journals which are the carriers of the latest information and these are very-much-sought-for document in a library. In science and technology today, we find that the traditional books are losing their importance and significance as original sources of information. It takes much longer to collect the material for compilation of books and to complete it in a book form. It also takes much longer to reach out to the readers through books. To make books available to the seekers of knowledge it requires proper sources and organisations. Usually, we find that authors report their original findings piecemeal through journals and abstracts for fear of losing the virginity of their information. Indexing is the most important and most modern technique of information-seeking and is very much in progress especially in foreign countries. Thus, we can say that the original research findings are best and quickly found in journals, serial publications like conference papers, proceedings, workshop papers, symposia, working papers, etc.

While journals and periodicals form the most important part of develop-

ment and add to the collections of the library, there are, no doubt, many problems in regularizing them. The acquisition of journals and periodicals gets magnified due to unorganized book trade and postal services. Again, a lot of difficulty arises with foreign magazines. The easiest mode of acquisition of these magazines or publications would be through local agencies, vendors and local publishers. The maintaining of a proper record of these publications creates another problem when the subscriptions are not remmitted on time and the cumulation of subscriptions gives rise to immense correspondence work in order to bring about the regularity regarding the receipt of magazines and periodicals. In spite of all these problems and difficulties of acquiring magazines, they have their own advantage, that of promoting reading habits among the readers. Magazines attract readers to the library. They can be browsed through quickly and a lot of time of the readers can be saved. It is also easier to collect the needed information on a particular subject of a particular interest of the readers within a short time than the readers would take to search for it in a book. Good general magazines and subject magazines also help the readers to collect a lot of general knowledge for their study. Hence, the importance of magazines to further the development of library collections cannot be ignored, especially in a college library.

7 SUBJECT SPECIALIST

The book collection development in college libraries too depends very much on subject specialists. Every subject field, be it science, technology or arts should have its own specialists for book selection, for cataloguing and for reference work. Special reading materials which are attractive and at the same time useful have a very great power to help in the development of the college library both, with regard to its management and in its services to readers. Libraries of today are considered to be service oriented centres and hence different reading materials ranging from macro to micro need to be served to the reading community. The collections of the library being the important sources of knowledge and wealth need to grow and develop so that society by putting it to good use, can grow and develop, and people can become better citizens of the society and of the country.

To bring about this development in the collections of the college library, the library staff has to be very much in contact with the classroom work, and the cooperation of the teaching staff too is very important. Moreover, the class schedules could be so arranged as to allow the college students to have at least two days in a week for the use of the library for longer periods as most of the students cannot make time before or after class. During the class hours too the teaching periods are so well packed that it leaves hardly any free time in which the students could spend in the library.

8 BOOK SELECTION, ACQUISITION AND ACCESSION WORK IN COLLEGE LIBRARIES

The collections and, more so, their development in a college library depends solely on the effective working and functions of the acquisition section. It is the responsibility of this section to record the holdings of the library. The efficiency of this section depends more on speed and economy. Today to quicken the work of acquisition of the reading materials and to be more methodical in its functions, we have computerized acquisition records which help in the work of automating procedures in library work. The collection of reading materials in a library is increased and developed by book selection. But the book selection is very much controlled by the acquisition section, as it receives short notices from the respective universities or responsible authorities. The release of funds for the purchase of books is often done at the last minute hardly leaving any time for proper selection. The budget allotments each year, on the other hand, are not enough to make adequate purchases to develop the collections of the library. The acquisition of reading materials also has its own problems in the case of rare books, government publications and serial publications. The subject specialists or the staff members should visit the book fairs every year and also the clearance sales where books can be purchased at a low price and thus make the poor budget allotment meet our needs. The staff must also be in contact with the publishing houses in the month of March or earlier to make the necessary arrangements for the yearly purchases. The low sanction of funds for the purchase of books makes the teachers feel vary much handicapped when the prices of the reading materials shoot up to exorbitant rates. For example, with an allotment of Rs. 1,000.00 a department can at times purchase only four or five books which are really good and this is inadequate.

After the acquisition of the reading materials, the collection development in college libraries depends also very much on its effective accessioning or recording every reading material that enters the library. To accession a book is to prepare a book for its identification through classification and cataloguing. As we all know, accessioning is a historical record which helps to maintain an orderly method in the growth of library collections. Accessioning can be done by the use of an accession book, by order cards, by shelf-list cards, by invoices or by any other method which the library finds convenient. The important thing is, to get information about the documents in the holdings of the library. We must admit, that accessioning and the processing of books is a tedious task. One has to be competent in the subject knowledge and individualize the document so that it finds its right place on the shelves and is available to the right reader at the right time to meet one's needs.

A library collection, therefore, is the sum total of library reading mater-

ials, which may take the form of books, manuscripts, serial publications, government publications, pamphlets, reports, recordings, micro-film reels, micro-cards, computer tapes, etc. It takes time to build a library collection. It involves selection and acquisition, but it means more than this. It means planning a systematic development of an already existing collection of the reading materials. The basis of this development and growth is of course financial support, availability of space and a well-equipped staff. The standard of collection development is also based on the variety and number of readers served and on the goals on which the library operates. In the past, the collections, their growth and development depended very much on individuals or private donors and their highest interests. But today, the emphasis has shifted from the individual donor to the original selection by the library itself. The development of collections in a college library could be built around the basic needs of information, the general reading habits and the basic reference sources. These would include some text books, bibliographies, subject surveys and selected editions of authors.

To have an up-to-date collection development, the college library should try to make available to its readers the latest editions in print. The aim of collection development for a college library should be to acquire the most important intellectual resources for the academic community of readers. The services given to the readers in a college library must be geared to the general college education and meet the specific educational objectives of the institution. Our Indian college libraries must aim to show the richness of our Indian heritage while respecting the Western and Eastern thought in all its richness. There should be no barriers between the library staff and the teaching staff and between the library and the classroom. The library must try to meet the demands not only of the readers but also of the teachers taking into consideration the demands of the freshers. A genuine library will give importance to all its readers and through it, help and encourage every reader to develop a life-long habit of good reading, and play his role in the community and in the wider realm of scholarship beyond the college campus.

9 NEW TRENDS IN COLLEGE LIBRARIES

Today, with advancing education, the importance of college libraries has grown to a very great extent. So, a great deal of importance is given to its collection development, both in its physical form and in its intellectual form. Hence, with the growth of education, the college libraries too are growing and so are its collections.

Finally, collection development of college libraries falls in tune with the Fifth Law of Library Science as formulated by Dr S R Ranganathan, namely, that a library is a growing organism and as a growing organism

everything within it and also around it keeps growing. As a growing organism, the growth is centred round the collections, the readers and the staff. One helps the other to grow forming a triangle or a trinitarian spirit of the library. Again, with growth comes development and one does not exist without the other. What furthers this growth and development is its ability to adapt its services to new social conditions as well as to new and modern technological conditions. The collection development of a college library will come about only when its librarian and the library staff are in the know of new trends, new publications, newer editions, and, understand the various dimensions of subjects in the growing Universe of Knowledge. It is, as much as to say, that they too have to grow and develop intellectually and in their mental attitudes to adjust to the changing world of knowledge explosion and world population.

Today the use of computers, the computerized systems and new communication media used in foreign libraries and also in some of our large Indian library institutions like INSDOC, DRTC, NISSAT, and big public libraries, etc., are changing the very concept of collection development in college and other libraries. The use of these automated systems in libraries can go a long way to improve and develop the collections of a library. In modern times, we have many facilities for collection development in libraries, like the Abstracts of various subjects, the indexing work, the scientific journals and the ability of the college library to exploit technology in order to provide better and efficient services to our college readers and seekers of different literatures. In these days when the cost of books has gone very high, Xeroxing machines would be a great boon to collection development in our college libraries. Through it much of the reading materials could be duplicated and issued to the readers at a low price. This would mean a lot of saving of their precious time. Further, much progress and much collection development can take place also through inter-loan services which we need very much to strengthen in a country like India.

The UGC scheme to open film clubs in universities and colleges could be yet another starting point to add to our collections—for example, books on film-making, direction, acting, film reviews, could be acquired. The possibilities in this direction hardly need to be emphasized if it is recognized that films are perhaps one of the most important mediums of social communication and education.

Again, our libraries could also build oral sections relating to current events, politics, the arts, local histories, popular cultures, etc.

Lastly, I would say that the demands of the readers however, have always to be evaluated. At times, the demands of readers relate not to services but only to information and the existing materials in its collections. These demands can easily be met. On the other hand, there are readers who make no use of library services given them. The readers in our college libraries must also be encouraged to give their choice of books

and prepare lists to the publishers. Regular reading of book reviews can be of an immense help in developing library collections.

10 CONCLUSION

To us librarians is also given a God-given mission like that of our college teachers, to make our college youth experience through our services to them, our love and our compassion, and, above all, we must listen to them.

I conclude with the hope that the survey work of the college libraries in Bihar State, my reflections and my experience as a working librarian for the last few years at Patna Women's College Library, will prove useful to libraries, both at the college and the university levels.

As a final conclusion I would like to point out some of the burning issues and problems facing us today and which could be discussed in order to help us to run our college libraries more efficiently—as regards, the role of modern librarians in libraries of today; Indian publications in Indian languages in our own country; visits of college teachers to the publishing houses, book fairs and clearance sales; college time tables to be more flexible to allow college students more time to use the libraries.

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COLLECTION DEVELOPMENT IN MADHYA PRADESH UNIVERSITY LIBRARIES

A TEJOMURTY

1 INTRODUCTION

Knowledge is power and libraries are the reservoirs of this power manifest in books and other reading material. Libraries are the temples of learning, the doors of which are open to each and everybody. The university library is a storehouse of knowledge. It is an axiomatic truth that a library cannot function without an appropriate collection. The efficiency of the library service is governed largely by the quantity and quality of its collection. It preserves and disseminates knowledge among the educated people and all reading and research activities radiate from the library. Library collections are measured not only in terms of numbers, but also in terms of their value and utility to the clientele. The quantitative and qualitative growth in published literature, the nature and functions of the parent institution, the varied requirements of the readers, and financial stringency force us to follow the principle of pick and choose. As a result, book selection and collection become major activities of the librarian and his staff. It is here that the acquisition section and the principles of acquisition become important.

2 ACQUISITIONAL PROGRAMME

The aquisitional programme is the plan for carrying out the objectives of the library with respect to the development of collections. The acquisitional policy of a library should be set down with reference to the requirements—actual and potential—of the library or the institution of which the library is a part. The basic functions of a university library, viz., conservation, instruction and research determine to a large extent the acquisition policy. The size of the university and the geographical location of its faculties; nature of the existing collections and availability of other library

resources through co-operative arrangements; the nature of the curriculum; the methods of teaching; extent of research; size and types of student community; number and diversity of the faculty; fuature developmental plans of the university; and the degree of financial support are some of the factors which affect book selection and collection development policies of a university library. The acquisitional programme of a library involves planned and properly thought out selection of documents, which are well suited to strengthen the library's resources for education, information, recreation, knowledge and research. The programme should be regarded as a continuous process of systematic selection and acquisition. Such programmes and policies should show : "(1) Who has the responsibility for seeing that a policy is set up and regularly carried out? (2) Who should have final authority for directing and controlling the distribution of book funds? (3) What materials should be acquired? (4) Who should participate in the selection ?"[1]

3 POLICY RESPONSIBILITY

In a university library, the librarian is usually held responsible for seeing that a well-coordinated, systematic plan for selection is established and maintained; but responsibility for the actual selection of materials is generally divided between him and the library staff, on the one hand, and the faculty, on the other. It is a matter of general concurrence that while the responsibility of selecting materials for teaching and research rests with the faculty, responsibility for selecting general reference books, periodicals and other useful material rests with the librarian and the library staff. The UGC Library Committee[2] states, "There should be three tiers in sharing the responsibility in book selection and purchase : (1) Top management, which may be either the Syndicate (Executive Council) or the Library Committee; (2) Panel of Experts consisting of at least one expert on behalf of the Board of Studies in each subject and one expert on behalf of the Department of Research in each subject; and (3) The executive officer of the library—namely the librarian".

It is generally observed in most of our university libraries, that in practice, the library committee plays an important role of allocating the book budget subject-wise, and sharing part of the responsibility of book selection policy. Although the final authority rests with the Executive Council, "the library committee, does, however, enjoy the privilege of being a policy-making body, but its membership ranges from 10 to 20 persons, some disinterested, some oblivious and others intellectually dehydrated. The result is that this body has turned out to be an ineffective organ for framing any effective acquisition policy in the university libraries of the country".[3] Usually the faculty members send the book lists to the librarian, who simply processes them and orders for them. It is a moot question as to who

should make book selection—librarian or faculty?

The UGC Library Committee assigns the responsibility of book selection to the Panel of Expert Advisers, when it writes, "The responsibility of an Expert Adviser in a subject should be :

1 To evaluate each of the titles in the book selection list placed before him by the librarian from time to time;
2 To eliminate the items of poorer standard, so as to bring the cost within the quota marked for the list;
3 To add new titles to the list and eliminate titles of equivalent cost, to keep the cost within the quota marked for the list;
4 To assay the textbooks in the textbook selection list and advise on the number of copies of each text book and to eliminate or to add to the list, so as to keep the cost of the list within the quota marked for the list; and
5 To review (jointly by the expert advisers of the Board of Studies and Department of Research) the current list of periodicals, bearing in mind the desirability of not disturbing the list too often, say, not dropping out a periodical ordinarily in less than three years".[4]

While many university librarians support the Library Committee's recommendation, Gidwani is critical of the same, when he writes, "titles are just ticked off from the lists (by the faculty) sent in by non-descript book sellers or books are selected from the lots brought on approval basis by vendors...Rarely are the lists of books for purchase are made out after perusal of reviews in relevant journals and literary supplements. The net result is that the book shelves in library get cluttered up with a lot of ephemeral junk".[5] Each side has its own positive and negative points. Cooperation between the librarian and the faculty is mutually beneficial and useful. Neither the university librarians nor the faculty members should take this controversy as a premium on their respective duties and responsibilities, and should fulfil their obligations by keeping in mind Cutter's dictum, 'Not the best books for the librarian, nor for the book committee, nor for the shelves but the best books to satisfy the just demands of our clients for amusement and knowledge and mental stimulus and spriritual inspiration." The Parry Commission recommends, "Each university library should have a developing acquisitions policy, which should be constantly revised. Close co-operation will be necessary between library and academic staff in formulating, developing and implementing acquisition policies. It is essential that a high proportion of the books purchased should be available in the library as soon as possible after publication. So far as possible, university libraries should train staff to become specialists in a wide variety of the subject fields taught within the university, and these should be given maximum responsibility for book selection, with the full co-operation of the academic staff".[6]

4 BOOK SELECTION POLICY

The existing theories of book selection, which are many and varied, drive home the point that a library should select books in accordance with the requirements of its clientele. In a university library, selection of (*a*) books required for teaching and research, and (*b*) central reading material for different categories of readers, makes excellent collection. In many university libraries, it so happens that the needs of research are given a secondary position after placing those of curricular instruction on top. It is indeed very difficult to make a clear cut distinction and watertight demarcation between the two. While we can conveniently know the nature of curriculum and research and thereby assess the library's requirements in a medium-sized or small university, it may not be that easy to obtain detailed information in a big university. This certainly affects the selection policy and collection development. The university administration following consultations with, and advise from, appropriate academic groups, should provide the library with an official statement of policy, in some detail, as to the institution's present and probable future programme of teaching and research. However, this does not take place in practice, and the book selection in most of our university libraries suffers, resulting in lop-sided and haphazard collections with many gaps in between. Srivastava and Verma[7] observe, "Unfortunately, the university administrators, university librarians as well as the faculty members (usually the heads of the departments) who predominate the book-selection process, have ignored the basic needs and requirements of scholars for their reading materials. They have never tried to know and discover the needs and opinions of readers about the library. The results of such a neglect of users' needs and requirements are not hidden from us".

Periodical surveys should be undertaken by the university libraries to know the trends and requirements of users, and policies framed accordingly. In the absence of such surveys, much of the library collection becomes a dead stock, as is the case with many of our university libraries. This eventually leads to frustration and despair, and compels readers to develop a non-library attitude, besides wastage of precious and limited financial resources. Bishop analyses the needs of different types of readers as, "the zoologist, the botanist, the chemist and the surgeon are concerned first of all with the journals in their fields, because it is there they learn most promptly about the latest discoveries and investigations . . . In the so-called earth sciences—geology, paleontology, mineralogy, geography and geophysics—the journal literature is also highly important, but it is supplemented extensively by government publications; for example, the innumerable reports of geological surveys".[8] Verma and Murty[9] found out from their survey that in Vikram university, the research scholars in Political Science and Economics use 51.75 percent and 45.01 percent books res-

pectively; 34.30 percent and 33.08 percent government publications respectively; and 13.95 percent and 21.91 percent non-book material respectively. Such surveys, supplemented by other methods help the librarians to know the readers' requirements and formulate a proper and balanced collection development policy.

4.1 Position in Madhya Pradesh

In Madhya Pradesh universities, library grant is sanctioned by the Executive Council, and the library committee distributes this grant subject-wise. Allotment for books and periodicals in each subject is also done by the library committee. Each teaching department is allotted a specific portion of the total grant for document collection. The faculty sends lists of selected books, to be ordered for. In fact, the university librarian does not have much right and responsibility in selecting and collecting the documents.

5 LIBRARY COLLECTION

A university library caters to the reading needs of the faculty and the students. The library collections should consist of a balanced stock of books, periodicals, institutional and government publications, newspapers, pamphlets, dissertations, maps, films etc. The collection should satisfy all curricular needs of the students and enable the teachers to keep abreast of new developments in their fields of interest. The Parry Commission[10] opined, "The policy document of a university library will consider all subject fields which are to be developed in relation to the needs of the students and staff of the university, all special collections and all types of material—whether printed or not. Some examples of the material which a university library may be expected to collect and which pose different problems in their acquisition methods are (*a*) students texts; (*b*) books currently published; (*c*) series; (*d*) currently published periodicals; (*e*) rare books and manuscripts; (*f*) general desiderata including back sets of periodicals; and (*g*) other materials like maps, sheet music, microforms, recorded sound on tapes or records, cinefilms and other visual aids, and cards and tapes for computers". There is no mention about this aspect in the UGC (India) library committee report.

As regards the number of books and other reading material is concerned university libraries in India have not been successful in developing a comprehensive collection of books, periodicals, and non-book material. "In the early sixties, an average university library of the country had a stock of one lakh volumes. It received about 750 periodicals. The combined grant for purchase of books received from the university and the UGC enabled a university library to procure about 7,500 books a year".[11] By

the early seventees these figures went up by about 33 per cent, the average number of books per university library being about 1,50,000. By 1971, an average Indian university library subscribed to about 1,000 periodicals and its average annual acquisition rose to 10,000 volumes.[12] However, a large portion of this material consists of multiple copies of books, text-books which are insignificant for research, and very old sets of periodicals and even light reading magazines.

5.1 Book Holdings in Madhya Pradesh University Libraries

The relevant position of university libraries in Madhya Pradesh is shown in Table 1. The table shows that only one university library in Madhya Pradesh, i e Sagar is having a collection of more than 2 lakh books. Jabalpur, and Indore University libraries are having a collection of more than one lakh but less than 1.5 lakh. Three university libraries, viz., Jiwaji, Ravishankar, and Vikram have a collection between half to one lakh books each. The collections of APS, Rewa, and Bhopal University libraries are even lower than 50,000.

As regards the average daily book addition, it is hardly between 4.8 to to 11 books for Madhya Pradesh university libraries, with the sole exception of Sagar University library which has a figure of 17. It is clear that Indore, Jabalpur, Raipur, Sagar and Vikram University libraries add more than 10 volumes per day to their stock, whereas Rewa and Bhopal University libraries acquire only five books per day. Jiwaji University library, Gwalior acquires on an average 4.8 books per day.

5.2 Periodical Holdings in Madhya Pradesh University Libraries

Periodical collection is a matter of great importance in a university library, because universities are the nerve centres of research, and periodicals contain the nascent thoughts about the research which is either in progress or is just completed in a particular branch of knowledge. The two World Wars, the emergence of new and independent nations in Asia, Africa, and Latin America and their extra enthusiasm towards research; the growing human desire for new inventions, human urge for communication of knowledge and ideas, have all given continuous stimulus to research programmes at all levels in various countries, as a result of which there is literature explosion of research publications in almost all fields of knowledge.

Periodical publications are very important for the clientele of a university library, but how many periodicals an university library should subscribe to, depends on many factors. In developed countries, it depends on the number of clientele, but in poor countries, it depends on the resources of a particular library. The UGC (UK) on the basis of the recommenda-

Table 1 : Comparative Position of Books in the University Libraries of Madhya Pradesh

Library \ *Year*	*1960*	*1965*	*1970*	*1975*	*1980*	*1982-83*	*Average acquisition per year (1975-82)*	*Average acquisition per day*
Bhopal	—	—	—	16,000	26,350	30,585	1,823	5.0
Gwalior	—	—	36,483	41,247	49,450	55,300	1,757	4.8
Indore	—	—	44,505	70,353	94,285	1,00,597	3,780	10 4
Jabalpur	—	55,070	68,846	79,606	97,800	1,12,015	4,051	11.0
Raipur	—	3,172	21,916	36,441	54,842	65,720	3,659	10.0
Rewa	—	—	—	17,920	29,840	33,630	1,962	5.4
Sagar	84,250	98,140	1,27,925	1,56,883	1,85,000	2,06,890	6,251	17.0
Vikram	13,519	32,151	46,404	67,954	93,471	99,686	3,966	10.9

tions of the Standing Conference of National and University Libraries, has suggested that "an established university library having 5,00,000 volumes of books, 3,000 undergraduates, 1,000 research students and 500 teachers, should subscribe to 3,000 periodicals only".[13]

Keeping this view in consideration, if we analyse and ponder over the position of subscription to current periodicals in Indian universities, we find that we fall too short of the above standards. The UGC library committee suggested that "in an university library there should be appropriate space for the display and use of at least 500 to 2,000 current periodicals".[14] The university library in its initial stage could start with subscribing to 500 current periodicals and this number may gradually go up to 2,000 with the development of the library. This means that 2,000 current periodicals is an optimum number for a good university library, but this scale falls too short of the standard suggested by the UGC (UK).

The following table proves that most of the Madhya Pradesh university libraries are hopelessly poor and far below this minimum standard.

Table 2 : Comparative Position of the Number of Preiodicals in the University Libraries of Madhya Pradesh

Year / *Library*	*1960*	*1965*	*1970*	*1975*	*1980*	*1982*
Bhopal	—	—	—	80	115	142
Gwalior	—	—	186	268	294	296
Indore	—	—	364	322	505	516
Jabalpur	—	204	275	254	280	280
Raipur	—	31	315	379	410	460
Rewa	—	—	—	59	104	140
Sagar	540	560	610	630	653	612
Vikram	159	257	535	542	560	583

Table 2 shows that only Indore, Vikram, and Sagar University libraries subscribe to more than 500 periodicals, their exact number being 516, 583 and 612 respectively. Ravishankar is quite near the figure of 500 with an exact number of 460. Gwalior, Jabalpur, Bhopal and Rewa University

libraries are quite poor in this respect, subscribing to only 296, 280, 142, and 140 periodicals respectively. The number of subscribed periodicals is gradually going up in majority of the university libraries, but it has gone down in respect of Indore and Jabalpur University libraries between the years 1970-1975.

The above analysis shows that, the holdings of Madhya Pradesh university libraries are much lower than Ranganathan Committee's (UGC : India) recommendations. To compare the situation with Parry Committee recommendations is beyond imagination.

5.3 Other Collections

The position regarding other collections like reference collection, special collection, non-book materials, maps, rare books, manuscripts, pamphlets is only a nominal feature and a minimal one. The only conclusion that could be derived is that financial limitations and the interference of the faculty in book selection process have compelled the librarians not to give proper weightage for building up such a collection in their libraries which is of utmost importance for study and research.

6 ISSUES FOR DISCUSSION

1 What should be the financial support to the university libraries to improve their collection?
2 Who should be made responsible for collection development in university libraries? Librarian—faculty—librarian and faculty?
3 How many periodicals should an university library subscribe to?
4 Can we make per reader book (subjectwise) requirement as the basis for a proper collection development policy?

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COLLECTION DEVELOPMENT IN PUBLIC LIBRARIES IN INDIA

G L TREHAN

1 A PUBLIC LIBRARY AS AN INSTITUTION FOR PERPETUAL EDUCATION

A public library is an institution for perpetual self-education. It has social, educational, informational, economic and cultural functions. Democracy makes the library serve one and all. Constitution of India came into force on January 26, 1950. Article 41 of the Constitution lays down explicitly a directive principle of state policy that the state shall, within the limits of economic capacities and development, make effective provisions for securing the right to education. This word, 'education' in this Article 41 embraces not only formal education through the agency of schools but also perpetual education through a comprehensive country-wide public library system. In view of this directive principle of state policy, free book service for all is necessary for life-long self-education through the agency of public libraries. This obligatory function of the State in the field of education brings into the sphere of government action the promotion of library service and the maintenance of a network of public libraries throughout the country. In this view of the matter, the Advisory Committee on Libraries in its Report (1959) had recommended that "legislation should incorporate the right of every citizen to have free access to vocational, scientific and cultural records of the country among fundamental rights." A modern public library is the only institution that will enable India not only to remove mass ignorance but also to achieve the noble ideal that more knowledge is our greatest need and that books provide items of social necessity and not luxury.[1]

2 BOOK COLLECTION AND PERIODICAL PUBLICATIONS

A library is an orderly collection for use through conservation, com-

munication and extension of knowledge. A public library is an instrument which provides opportunity for perpetual self-development and extension of knowledge to the community. So, Ranganathan's Second Law of Library Science states that 'every reader his or her book'. This means that Second Law expects the public library to take into consideration every kind of reader, whatever the age, the sex, the vocation, the capacity of self-help and the willingness to read. It also expects the library to inform itself of the subject interest of its readers. As the curiosity and interest of the locality are widely varied, it should acquire basic books nearly on all the major occupations of its actual and potential readers and of a standard suited to the majority of the readers in the locality. As such, the library should have following representative collection of books for use by readers of the locality to satisfy their needs :

1 Books on recreation and light literature.
2 Books on Home Management, Women-Hygiene, Child-Nutrition, Cooking, Maternity, Dietetics and Child Welfare.
3 Biographies and Travel Books.
4 Books on Fine Arts, Religion and Philosophy.
5 Books on Current Information and Reference Books.
6 Books of Great Authors and Classics.
7 Story books and fiction.

Besides these kinds of books, the collection should also include newspapers, periodicals, maps and pictures, so as to meet the needs of the reading public and their varied interests. Without a representative collection of all these books, a public library is only half alive. The book stock must be kept alive by new editions to replace the earlier editions in the library. A small public library should not waste money on purchase of costly books in infrequent demand which if necessary can be got on inter-library loan system from the State Library. To acquire a balanced collection of books, the librarian should remain in constant touch with the members of the library and try to know their ready needs and tastes so that such books are acquired for the library. Care should be taken to allow on the shelves only books that are to be continuously read, enjoyed and understood and acted upon by readers.[2]

It is the function of a modern public library to provide all the useful and worthwhile books and periodicals that common people cannot obtain more appropriately or easily from other sources of supply. The main purpose of a public library collection is that through our reference and reader's services we make the records available to enhance the quality of life even more, the life of individuals, the life of society, the life of humanity.[3] The supply of required periodicals for the library should be regulated by giving a standing order for supply on a subscription basis and

sending a renewal order once in a year on an appointed date and make payment in advance in accordance with standing library practice. It is not desirable to change the list of current periodicals subscribed to by the library voluntarily from year to year, if supply is received promptly and entered in the subscription register. Vigilance is, however, necessary regarding receipt of current issues of each periodical by use of a three-card system in a big library and a two-card system in a small library.

3 CASE HISTORY OF PUBLIC LIBRARIES

I made case study of Central State Library. Chandigarh, and District Library, Jullundur, as well as District Library, Gurdaspur, on behalf of Chandigarh Library Study Circle sometimes back. As to book collection development use of these public libraries, the position is as under.

3.1 Tarlok Singh Central State Library, Chandigarh

In Chandigarh, Central State Library was established in 1954. It is located in a well-designed and functional four-storeyed building in Sector 17. It provides a living and socially integrated service of ideas and information to society. Its book collection now exceeds one lakh with more than 34,000 members as regular borrowers, mostly consisting of school children, college and university students and retired and working people of Chandigarh. On an estimate 600-700 readers visit daily the lending section to get books on their cards. The library hours are from 11 A M to 6 P M, but the reading room located just near the entrance of the library in the ground floor functions from 10 A M to 6 P.M. It subscribes to about 200 dailies, weeklies and monthlies. The reading room is found always over-crowded during the time when all the shops in Sector 17 and government offices nearby there remain closed for lunch break.

The library has books on shelves mostly on subjects of history, biography, travel, literature, art, culture, religion, philosophy, short stories and novels in English, Hindi, Punjabi and Urdu. There is a separate children section in the ground floor which has on its role about 500 members. Comics are very popular with children. The reference section, located in the second storey containing about 8,000 reference books arranged subject-wise on shelves, is another attraction for research scholars in Chandigarh. One finds people from all walks of life visiting this section for getting information. About 600-800 persons daily visit the lending section. The only problem faced by the Librarian, Mrs Rajinder Chopra is that she has more readers and less books to cope with the rush. She is however, doing her best to provide the latest arrivals in the library to the readers at the earliest. The State library provides library service to the village folk in villages in the Union Territory of Chandigarh by means of a

mobile van which visits nearby villages for entertaining the literates and the the ill-read villagers through popular books. There is a separate reading room opened by this library in a hutment in the Leisure Valley of Sectore 10 to serve senior citizens and retired persons living in the locality, who daily visit the Leisure Valley for their morning and evening walks.

3.2 District Libraries at Gurdaspur and Jullundur

In March last, I made study tour of District Library, Gurdaspur, and Gurunanak Dev District Library, Jullundur. These two libraries are functioning more or less as city libraries and do not provide rural library service through mobile library van. Development of collection in these libraries has been steady and they are well used by the members of the library. But since last two or three years due to spiralling prices of new books and lack of adequate library fund the libraries are unable to acquire many new scholarly books wanted to be read by the intellectual members of the library. There is also lack of adequate library staff to provide good reference service to visit these libraries. The reading rooms of these libraries are, however, seen crowded with even non-members who read the daily newspapers to quench their thirst for knowledge of the current events of the time.

4 SELF SUFFICIENCY : NOT POSSIBLE

As India does not possess a rich economy which developed countries in the West e g USA, Canada and UK possess, it is virtually impossible for any public library, even if great, to acquire all the retrospective publications that are required for comprehensive coverage of all subject fields or to keep up with the ever-rising flow of new publications. It is assumed that no library can be self-sufficient as it is a Will-O'-the Wisp. But libraries acting together can more effectively satisfy users' needs and thus facilitate access to available knowledge. This means provision of sources to users through material cooperation and coordination of resources. Smt K Sarada has already pleaded for centralised library service by establishing a centre for the public, college and school libraries in the linguistic State of Andhra Pradesh which may undertake bulk purchases by entering into agreement with publishers and booksellers for the supply of required books with standard physical get-up at maximum discount and provide assistance to small libraries in book selection and bibliographical sources.

5 MAIN PROBLEMS AND SUGGESTIONS FOR IMPROVEMENT

In the matter of book procurement and collection development in

public libraries in India, which is a multilingual country, the following are the main problems :

1 Lack of provision of adequate funds for book procurement.
2 Lack of publication of good and comprehensive bibliographical tools and book selection guides.
3 Rising cost of paper and printing and high prices.
4 Lack of good reading material in regional languages that can help socio-economic development of rural folk and serve as media for technology transfer towards rural development.

To solve these problems, following suggestions are offered :

1 The State Government should sanction huge sums needed for establishing and maintaining public libraries with adequate collection of worthwhile books and periodicals.
2 Indian book industry should provide reliable book selection tools on the pattern of USA and UK.
3 Leading book publishing houses should start producing a good variety of books on all subjects in regional languages at cheaper rate.
4 Government should allocate more funds for establishing public libraries in small towns, and purchase of basic book collection useful to common people in the locality.
5 Cooperative/ centralised book procurement centre be established in the State Central Library as a measure of economy in acquisition of books.

6 ECONOMICS OF BOOK ACQUISITION

During the last decade or so the cost of operating public libraries continues to rise at a rate far steepers than the inflatory rise in the consumer price index. The library budget is correspondingly on the increase to meet cost of purchase of new books and periodicals whose prices are soaring day by day and to pay salaries to library staff at higher rates. It we cut costs, productivity in library operations will decrease to the detriment of the users of the library. The government in power and the Planning Commission should realise the value of full library service to the entire community. The world has now reached a stage when a nation which pushes library provision aside, in order to save for other purposes, will be following a penny wise and pound foolish policy.

We should adopt a proper acquisition programme and methods that can be called 'Economics of Books Acquisition.' A proper acquisition programme lays the foundation of a good public library and to draw up this

programme economically and intelligently is the work of the librarian, who must enlist in this respect the cooperation of members of the Library Committee as well as the users of the library. The librarian should first check up books in the library with a view to guard against the simultaneous existence of books too many on one subject and too few on another subject. His mission is something incomparably higher than the mission of the past time librarian. The librarian should exercise judgement to select a stock of books and material actually required to meet the needs and consistent demands of the community. As such, what is required is the improvement of the performance rate by lowering the holding rate and raising the availability rate when a library is already fully loaded and there is less money in sight for purchasing new books and periodicals. The only trustworthy measures of holding and availability rates are those, that are applied directly to the actual users of the library. 'Availability' means getting the books to the reader at the time he wants it. What is desired is that the library's effectiveness should be increased by delivery of what is strongly desired and directly desired by the users. In view of this position, it is necessary to avoid the endlessness of unproductive addition of library holdings to the library stacks. The law of diminishing return applies with an astonishing force to the growth of library collection. So, doubling the number of titles will add not 100 percent to its usefulness but periodical reviewing its holdings and finding out required books from the shelves in response to actual reader-demand can have the effect of doubling their utility.

7 UTILIZATION OF LIBRARY COLLECTION

In India during the past 2 or 3 decades many big public libraries have acquired and piled up plenty of books and periodicals but the worry is that little use is made of all the materials so collected. In this context, D R Kalia writes:

> "There is as such a problem of under-utilization of book resources of the existing libraries as it is building up of additional sources."[5]

B S Kesavan, our former Librarian, National Library, Calcutta, lamented over poor library service in the country, when he observed:

> "Library science has developed to obvious dimensions but what about library service."[6]

The basic principle is that "knowledge is for utilization." So the book collection in the library must be put to actual use of the readers. It is the reader in the community for whom knowledge is collected, conserved and

made to work in the public library. It is for the library staff to match books with personality by use of time-saving devices of open-shelf system, classified arrangement and card-catalogue, reference and information desk, shelf-guides, physical facilities to readers and composing atmosphere to facilitate contact between readers and books by practising of applied librarianship with the help of five laws of library service:

1 Intelligence integrates books and readers.
2 Energy makes knowledge work.
3 Spirit vitalizes library organization.
4 Time is the essence of library service.
5 Space counts in a service library.[7]

8 NEED FOR EDUCATING THE MASTERS

As good libraries are not built on shoe-strings, every public library must be provided with enough funds for acquisition of books and journals on the basis of recognised optimum per capita standard. This calls for total revolution in the sphere of self-education, continuing education and public libraries in the country so badly needed for bringing nearer socialistic pattern of society. The tinkering of the problem here and there will not do. It is only a dynamic, radical and progressive approach that will help to overcome the present day difficulty and lead us to raise a fine edifice of public library service structure in each State. It is time that the government in power should make huge investment for establishing and maintaining public library as national investment even if its return may not be palpable in the immediate future. Such an investment will in the long run will accelerate the pace of making India a 'Nation of Readers.' It is a national crime if State Governments still beguile themselves with the excuse that they cannot afford to spare huge sums needed for planning and setting up a network of public libraries in all parts of the country.

9 CONCLUSION

What is needed is a public library organised well to lead the people directly to the books that serve universal and enduring human needs on basis of human principles. The library staff must, therefore, create library effectiveness by making reasonable kind of service provision, i e making accessible what is strongly required by the actual users of the library. Success does not depend on what we have but on what actoin we take while working in public libraries to put the available recorded knowledge to work for the benefit of the community. Indian Library Association may consider this aspect of the matter at the Seminar of the All India Library Conference at Jaipur.

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COLLECTION DEVELOPMENT IN SCIENTIFIC AND TECHNICAL RESEARCH LIBRARIES IN INDIA

SURENDRA NATH MEHTA

1 INTRODUCTION

Building suitable collections for scientific and technical research libraries is a process of prime importance. Many users, when asked to evaluate scientific and technical libraries, will list the strength of the collections high on the list of major criteria. Science and technology collections are not the easiest ones to develop successfully in view of the complexity of the subjects involved, the large numbers of choice to make because of the sizeable quantity of books and journals from which to select and the difficulty of even knowing about certain gray area publications, such as important but elusive proceedings of meetings, little known government documents, or obscure papers which appeared as technical reports.

Sizeable quantity of books and journals published can be judged from Table 1. It can be seen from the table that in 1955 titles of books

Table 1 : Estimated World Book Production

Year	*World Total*
1955	2,69,000
1960	3,32,000
1965	4,26,000
1970	5,21,000
1975	5,72,000
1980	7,26,500
1981	7,29,000

published were 2,69,000 which increased to 7,29,000 in 1981.[24] Estimates of the number of scientific and technical periodicals in existence vary from 2,66,000 to 1,00,000 titles[6,15,21]. The fourth edition of the World List of Scientific Periodicals[25], lists 59,961 titles, K P Barr[2] argues that the number of currently available scientific and technical periodicals which contain material of interest to the practising scientists and technologists is 26,000. King and others have estimated that the number of scientific and technical periodicals worldwide would be close to 75,000 by 1985.[14] Whereas there are over 1,16,000 periodicals listed in the data base of Ulrich's family of directories and is increasing at the rate of 500 quarterly.[23] According to Carter and others numbers of significant documents estimated in 1970 in various scientific and technical subjects is given in Table 2.[6] Recently

Table 2 : Number of Documents Published in 1970

Subject	*Number of significant documents, estimated annual volume*
Aero/Space	50,000
Astronomy	10,000
Biological Chemistry	50,000
Biology	2,50,000
Chemistry	3,00,000
Engineering (Aeronautical, Civil, Electrical, Marine, Mechanical, Millitry)	2,00,000
Geodesy	8,000
Geography	50,000
Geology	30,000
Geophysics	20,000
Mathematics	15,000
Mechanics	10,000
Metallurgy	50,000
Nuclear Science	30,000
Physics	50,000
Psychology	20,000
TOTAL	11,43,000

it was estimated that scientific and technical literature is doubling every ten years or/so.[16]

It is almost impossible for any research library in India to be comprehensive these days since the amount of literature published as seen above is so enormous and costly. The output of scientific and technical literature grows so rapidly that it would be neither feasible nor indeed reasonable for research libraries to acquire and stock all the scientific and technical literature produced throughout the world. Under the circumstances, particularly when limited funds are available a system must be evolved to maximise the benefits of limited investments without hampering the work of scientific research and development owing to the non-availability of the latest information. This aim can be achieved by ensuring that atleast one copy of each significant scientific and technical documents produced all over the world required for scientific and technical development is available for use in one of the scientific and technical research libraries in the country.[19]

2 PROBLEMS OF ACQUISITION OF SCIENTIFIC AND TECHNICAL LITERATURE

In order to achieve this objective of acquiring of copies of significant scientific and technical documents, we must look at the problems faced by scientific and technical research libraries in India.

2.1 Non-Availability of Acquisition Tools

One of the major problems faced by the scientiric and technical research libraries in India is the non-availability of selection tools for acquisition of scientific and technical publications published in the world.

Though the problem is not acute as far as publications in English language are concerned which can be known from the following major selection tools : [11,12]

2.1.1 *Selection Tools*

2.1.1.1 *Books*

1 Books in Print, New York, Bowker, 1947—Annual. Contains information about books published and exclusively distributed in the United States and are available to the trade or to the general public for single or multiple copy purchse.[3]

2 British Books in Print, London, Wittaker; 1967-Annual. Contains information about the English Language titles published in United Kingdom.[5]

3 International Books in Print. Munchen, K G Saur, 1983. Contains information about the English language titles published outside the United States and United Kingdom.[13]

4 ASLIB Book List (Monthly). London, ASLIB. A monthly list of selected books published in the fields of science, technology, medicine and the social sciences.[1]

5 Canadian Books in Print, Toronto, Toronto University Press, 1967, Annual.[8]

2.1.1.2 *Technical Reports*

Government Reports Announcements and Index. Springfield, VA : U S National Technical Information Service; Vol. 1 : 1946—Semi-monthly, annual index.

Index to U S government sponsored research, development and engineering reports and translations. Subjects include robot development, servomechanisms, control systems, computer applications, manipulators. Foreign reports on new technologies are being added. Indexes : subject, author, corporate author contract/grant number, NTIS order/report number.

Scientific and Technical Aerospace Reports. Washingtgn, D C: U S National Aeronautics and Space Administrations : Vol. I; 1963—Semi-monthly, annual index.

Covers scientific and technical reports on man/system technology with emphasis on aeronautics and space research. Indexes : subject, author, corporate author, contract number, report/accession number.

2.1.1.3 *Conferences/Meetings*

Index to Scientific and Technical Proceedings. Philadelphia, PA : Institute for Scientific Information : 1971-Monthly, annual cumulation.

Indexes selected published proceedings, both the meetings and the individual papers. Approximately 35% are from engineering, technology and applied sciences. Indexes : subject, author and editor, sponsor, meeting location, categories, corporate geographic index, corporate organisation.

Conference Papers Index. Betheeda, M D : Cambridge Scientific Abstracts : 1973—Over 9,44,000 records, monthly updates.

Provides reference to papers from over 1,000 regional, national and international scientific and technical meetings per year. Available from Dialog.

EI Engineering Meetings. New York: Engineering Information Inc; 1979—Over 66,000 records, updated monthly.
Indexes significant published proceedings of engineering and technical conferences, symposia, meeting and colloquia. Available from Dialog and SDC.

2.1.1.4 *Patents*

Darvent's online database World Patents Index.

2.1.1.5 *Periodicals*

The Ulrich's family of directories covers some 1,16,000 entries of 63,000 publishers and corporate authors from 180 countries around the world.[23]

(1) *Ulrich's International Periodical Directory, New York. Bowker, 1932* Covers some 64,800 periodicals all kinds from all over the world in 556 subject area.

(2) *Ulrich's International Periodical Directory, Irregular Serials and Annals*

Provides data on 35,000 serials, annuals, continuations, conference proceedings, and other publications issued regularly or less frequently than twice a year. Entries are alphabetically arranged under 556 subject collections.

(3) *Ulrich's Quarterly*

A supplement to Ulrich's International Periodical Directory and irregular serials and annuals.

Each issue lists some 1,500 new and newly added periodicals, irregular serials and annuals of all kinds from all over the world.

2.1.1.6 The above mentioned tools are very costly and it is not possible for each scientific and technical research library to acquire these costly tools.

2.1.1.7 The magnitude of the problem becomes more acute when half of the new scientific and technical literature is in foreign languages[12] and tools for acquisition of scientific and technical literature from these language are not readily available in India[17,18].

2.2 Non-Availability through Trade Channels

One of the biggest problem faced by the scientific and technical libraries is the timely availability of scientific and technical literature.

The normal trade channels, i e booksellers/wholesalers do not cater to all the orders placed with them. The publications readily available in stock are supplied quickly whereas books not available in stock are supplied after a long period (6 months to 2 years) and in many cases not supplied at all. This situation is faced by most of the scientific and technical research libraries.

3 RISING COST OF SCIENTIFIC AND TECHNICAL PUBLICATIONS

Due to the increasing costs of printing materials and technology, the cost of the scientific and technical publications has been rising tremendously.

3.1 Scientific and Technical Books

3.1.1 *British Scientific and Technical Books*

The rising trend in the cost of British scientific and technical books can be seen from Table 3. According to Bowker annual average price of

Table 3 : Average Price for British Scientific and Technical Books

(*Prices are given in Sterling*)

Category	*1971-72*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*
General Works	6.09	6.23	8.18	8.44	12.70	14.39	10.77
Natural Sciences	4.78	9.84	10.95	11.72	13.78	14.03	15.52
Applied Sciences	3.89	6.14	7.94	8.59	9.99	10.18	12.27

a British book published in 1971-72 in the field of natural sciences and applied sciences was £ 4.70 and £ 3.89 respectively whereas in 1981 the average price was £ 15.52 and £ 12.27 respectively. From this it is clear there has been more than 300 percent increase in the prices of books pertaining to natural and applied sciences during the decade.[4]

3.1.2 *German Scientific and Technical Books*

The rising trend in the cost of German scientific and technical books is shown in Table 4. According to the Bowker Annual, average price of German books published in 1970 in the field of natural science and technology was DM 34.97 and DM 62.40 respectively. From this it is clear

Table 4 : Average Prices for German Scientific and Technical Books

(Prices are given in DM)

Cetegory	*1970*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*
General Works	35.02	45.10	54.03	68.47	61.93	67.57	75.23
Military Science	14.90	19.81	24.27	22.91	21.64	27.44	25.50
Natural Science	34.97	69.07	81.77	93.45	97.82	101.75	99.60
Mathematics	27.03	29.70	32.50	29.98	30.82	34.82	36.48
Medicine	37.22	49.06	52.57	50.29	50.82	58.10	59.91
Technology	22.67	34.04	42.66	42.45	57.85	55.13	62.40
Agriculture	11.79	19.86	24.60	25.10	21.75	22.36	24.09

that there has been about 300 percent increase in the prices of books pertaining to natural sciences and technology during the decade.[19]

3.1.3. *US Scientific and Technical Books*

The rising trend in the cost of US hard cover scientific and technical books is given in Table 5. According to Bowker Annual average price of US hardcover books published in 1972 in the field of science and technology was $ 16.05 and $ 16.11 respectively whereas in 1981 the average price was $ 40.27 $ 36.33 respectively. From this it is clear that there has been 225 percent increase in the prices of books pertaining to science and technology respectively during the decade.

3.1.4 *Books Published in India in English Language*

The rising trend in the cost of books published in India in English language has been 92 percent between 1971 to 1975.[16]

3.2 SCIENTIFIC AND TECHNICAL PERIODICALS

3.2.1 It is apparent to all those even slightly acquainted with scientific and technical libraries that serials including journals, are of prime importance to such organizations. Despite their costs and the problems involved in selecting, handling and storing such literature, serials remain the key source of information for most scientists and engineers.

3.2.2 The journals are becoming increasingly more expensive. Publications costs are steadily going up, and so are subscription prices. The annual

Table 5 : Average Prices of U S Hardcover Scientific and Technical Books

(*Prices are given in US $*)

Category	*1972*	*1973*	*1974*	*1975*	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*
General Works	15.19	18.42	23.02	21.60	26.61	30.99	25.51	28.56	29.84	33.43
Science	16.05	17.34	20.83	22.81	23.95	24.88	26.28	30.59	37.45	40.27
Technology	16.11	15.38	17.74	19.66	20.47	23.61	22.64	27.82	33.64	36.33
Medicine	16.19	15.92	18.92	22.15	23.43	24.00	25.01	29.27	34.28	35.83
Agriculture	10.94	11.79	13.21	13.72	14.01	16.24	17.24	20.94	27.55	32.25

survey of periodical prices reported in library journals each summer indicate the subscription prices of United States journals are increasing at the rate of 10 to 13 percent each year, and that chemistry and physics journals are most expensive. The average price of chemistry and physics journals in 1982 was $ 177.94; this is nearly four times the average price of an American journal ($ 44.80) in 1982.[22] The average prices of periodicals in several subject areas are shown in Table 6.[7]

3.2.3 In order to build up efficient collection of scientific and technical periodicals and taking into consideration the annual increase in number of scientific and technical periodicals and increase in subscription prices, we have to pool the resources of all the scientific and technical libraries, in India and the answer to this is a library network of scientific and technical libraries in the country.

4 BUDGET LIMITATIONS

In India, due recognition is not being paid to the development of scientific and technical research libraries and therefore adequate funds are not provided by the parent organisations. Even annual increase in the budget of the research libraries attached to various government departments is to the tune of 10 percent only, whereas the annual increase in the cost of publications in the field of science and technology as indicated in Section 3 is more than this.

5 NETWORK OF SCIENTIFIC AND TECHNICAL RESEARCH LIBRARIES

The problems of collection development in scientific and technical research libraries in India can be solved to a great extent by forming a network of libraries based on a grid system with a central nucleus linked with several regional and local units located in the various geographical regions of the country such as a multitier organization of the network would consist of various levels of libraries as follows :

1 National Science Library
2 Regional State Science Library
3 Branch Subject Library
4 Local Scientific and Technical Research Library

5.1 A policy for coordinating the acquisition of scientific and technical publications and their distribution among different scientific and technical research libraries is essential and urgent in order that (1) the libraries do not have unnecessary stock, (2) there is no undue duplication of material among libraries, and (3) the available funds for the purchase of scientific

Table 6 : Average Prices of U S Periodicals'

(Prices are given in US $)

Category	*1967-69*	*1976*	*1972*	*1978*	*1979*	*1980*	*1981*	*1982*
General Works	7.28	15.24	16.19	17.26	18.28	19.87	21.83	23.93
Chemistry and Physics	24.48	86.72	93.76	108.22	118.33	137.45	156.30	177.94
Science and Technology	65.23	122.69	141.16	160.61	173.96	191.35	214.81	—
Medicine	19.38	47.47	51.31	57.86	63.31	73.37	86.38	102.87
Engineering	18.03	31.87	35.77	39.77	42.95	49.15	54.55	61.54
Agriculture	4.68	10.75	11.58	12.48	14.16	15.24	17.24	19.76

and technical publications are allowed to go the longest way for acquiring maximum number of publications. The most important of this material should be available in the local libraries for directly meeting the requirements of their users.

The branch subject libraries should supplement the acquisition of individual libraries coming under their purview, with highly specialized and costly material, the use of which will be shared by all libraries in that branch. The unpublished material like research and development reports, trade literature etc and little used material in local libraries would be deposited in the branch subject libraries.

The Regional State Science Library would build up a collection of general works and maintain a general reference library. They would collect and hold thesis and dissertations prepared within their respective states. They would act as regional coordinating agencies in the national cooperative acquisition programme. The National Science Library would build up national collections by complementing the branch and regional collections and by filling up areas not covered by them. A large reference library and a collection of bibliographical tools would be the core of the collection in the National Science Library.[20]

6 ACQUISITION OF ONE COPY OF EACH SIGNIFICANT DOCUMENT

In the matter of building of national collections, in the field of science and technology, the goal would be that the scientific and technical research libraries of national, state, branch and local taken together should ensure that at least one copy of everything worthwhile published in the field of science and technology in the world is accessible within the country for use, no matter where it is kept.

7 CONCLUSION

Taking into consideration the rate of increase in number of scientific and technical documents, rise in their cost of acquisitions, need for availability of acquisition selection tools and inadequate funds for acquisition, it has become absolutely essential for the scientific and technical research libraries in India to form a network and ensure availability of one copy of each significant document published in the world for the use in the country.

Coordination at national, state, branch and local level with the responsibility of covering special subject fields by participating scientific and technical research libraries and coordinating their document aquisition activities at National/Regional/State Science Library appear to be the most suitable system for scientific and technical research libraries in India.

The individual scientific and technical research Libraries are also required to circulate their recent accessions of documents to all the participating libraries and institutions to make user aware of the availability of documents in respective libraries.

8 RECOMMENDATIONS AND MAIN ISSUES

1 Tools for selection of documents from languages other than English in the field of science and technology should be available in India.
2 Increase in budget should be commensurate with the increase in prices of books and periodicals plus provision for new editions.
3 To effectively meet the challenge of increase in number of scientific and technical documents and rise in their cost it is essential to pool the resources of all scientific and technical research libraries in India and create a network of these to ensure efficient collection development for the use of research scientists and technologists in India.

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COLLECTION DEVELOPMENT IN SPECIAL AND RESEARCH LIBRARY : AMERICAN STUDIES RESEARCH CENTRE : A CASE STUDY

SREENIDHI IYENGAR

1 ORIGIN

The American Studies Research Centre was established in 1964 in Hyderabed to assist Indian scholars, universities and other institutions of higher learning to plan and carry out significant research in American subjects. It is dedicated to the acquisition of knowledge in depth through the disciplined and dispassionate research of the professional scholars. It is a research institution whose purpose is to assist the serious researchers.

2 THE FIRST YEARS

With a small collection of three or four thousand books just out of their overseas boxes, the library has continued to grow toward its goal of acquiring a basic collection of Americana, comprehensive enough to make possible a balanced interpretation of American history, life, and institutions, and at the same time specialized enough to serve the needs of scholarly research. In 1984 the collection numbers about 1,37,612 (books, bound periodicals, pamphlets, microfilms, and video tapes) in the humanities and social sciences, all bearing on American civilization.[1]

The emphasis in the beginning was on literature and history but slowly the emphasis has shifted towards the social sciences which include sociology, political science, international relations, economics, and related fields.

The early years were very crucial because the Centre was just trying to establish itself into a reputable research institute. The collection was very carefully developed, taking great care to see that all the areas of social sciences and humanities are well represented. The book collection gradually increased with an average increase of 6,000 volumes each year. The

reference collection was carefully developed keeping in mind the emphasis of early years, the books pertaining to literature were given priority. The Centre has most of the reference volumes from number one to date which appear as annuals. The reference section of the Centre is not only used by scholars of American literature but by others who are working on Commonwealth or Indo-Anglian literature. It has a rich collection of individual author bibliographies, concordances, and indexes.

The periodicals also received the same emphasis as book collection and most of the subscriptions were for journals in literature. From a modest collection of 200 titles the current subscription rose to 750 titles in 1984. That increase in subscriptions represents other areas as well. We have most of the periodicals from number one to date. We were able to fill in the gaps because we got a special grant of $1,34,075.00 for periodicals, Out-of-print books and equipment in 1977-1978. Most of the gaps in periodicals were filled in microform. Scholars using the library find the periodical section a paradise. The Centre was able to acquire a good Xerox machine in 1983 (Xerox 7000 from Rank Xerox Company) which enables scholars to get copies of articles speedily.

3 THE COLLECTION

A special or research library is unique according to the needs and interests the materials are collected and organized to meet the requirements of specific groups of users, services are developed to assist these same specific users, the librarian assumes an active role in the flow of information by taking the initiative in user's attention to new and pertinent information. The library is generally small, necessitating great selectivity in the collection.

Keeping in mind the above principles the Centre has developed a very systematic acquisition policy. The officers (Director, Academic Associates, Librarian) regularly go through the review journals and suggest books and periodicals for purchase.

Journals such as *Choice, New York Times Book Review, New York Review of Books, Publishers Weekly, TLS, Reviews in American History, American Historical Review, American Political Science Review, American Economic Review, The Review of Politics, Sociology and Social Research, American Literature, Modern Fiction Studies, Studies in American Fiction, Indian Book Chronicle, Monthly Catalog of United States Government Publications, Journal of American History, London Review of Books* and many others are subscribed by the Centre and regularly suggestions are made from these journals.

Every officer goes through some of these journals so that there is no duplication of effort and selects titles for purchase. Besides these suggestions, the scholars are requested to give suggestions for books and period-

icals in their area of interest which are not available at the Centre. To make the work easier and more systematic we have suggestion cards which are available at the reference desk. The scholar has to fill in the details giving author's name, title, publisher and date of publication accompanied by a small note or review of the book. Also it is the responsibility of the scholar to check *Books in Print* to make sure that the book is in print. If it is an out of print book we immediately inform the scholar that it may not be possible to get the book unless it appears again in print. (Sample suggestion card)

BOOK SUGGESTION (WRITE IN CAPITALS PLEASE)

LAST NAME FIRST NAME MIDDLE INITIAL

Author :

Title :

Place and Publisher : Year Price

Suggested by : Please cite a book review to support your request and provide an annotation, if possible, on the reverse side

With the help of scholars we are able to fill in the gaps in our collection. The areas which are poorly represented are brought to our notice, the staff as well as the scholars give suggestions in the areas which are weak and try to build a well balanced collection. For instance scholars working on topics such as U S Iran relations; Theodore Roosevelt as a historian of the West; significance of heroes in modern American drama; the concept of family in contemporary American fiction; Le Roi Jones, a social force in black American heritage; are able to suggest relevant meterial in their field by which the library is able to fill the gaps in the collection.

Both local and out station scholars make suggestions for purchase. Usually the Centre staff prepare order cards for those titles requested by scholars which fall within the purview of American studies which are not in the collection. Every scholar is informed about the arrival of the new title suggested by him or her.

The scholars and the staff are always reminded about the scholarly interest of the Centre and only such titles are ordered. Some of the guidelines followed for purchase are : University publications such as Harvard, Cambridge, Oxford, Yale, Princeton and Stanford which publish scholarly titles are taken into consideration. As a rule text books are not purchased. Emphasis is laid to build the primary source materials. Diaries,

correspondences, letters, public papers are given priority. Very few secondary source materials are purchased. The Centre tries to encourage scholarship by making the scholars use primary materials rather than using the secondary sources.

The book selection committee meets at least once in two months to review the book suggestion cards and places the order directly with Baker and Taylor, New Jersey. Very few books are bought locally because being a special library the titles required by the Centre are hardly found with the local book dealers. Books sent on approval are very carefully examined and very few books are bought in this manner. The bulk of the purchases come directly from the States which have been very carefully selected.

Being a research library every effort is made to collect materials of special interest to scholars such as reprints and offprints of articles in journals which the Centre does not subscribe to. The Centre has a rich Vertical File collection mostly consisting of reprints, offprints, and Xerox copies. Most of the articles in this collection are selected from the *Current Contents* : *Arts and Humanities* and *Current Contents* : *Social and Behavioral Sciences*. Besides this the librarian takes note of some very important articles which the scholars desparately need for which efforts are made to get them directly from the States by writing to the libraries and requesting them to send free copies. Most of the articles are received free except a few libraries insist payment for Xerox copies. Recently a scholar working on W H Auden gave some eight articles which have appeared in journals in 1940s and we were able to get five from various libraries in the States free of cost.

The Centre has some special collections and one such collection is the Indian contributions in American studies. Most of the thesis and dissertations submitted to Indian universities by Indian scholars are in this collection. In order to encourage scholars to give a copy of their dissertation we have a grant-in-aid program, we pay Rs 200.00 for a thesis submitted to us. We regularly go through the *University News* under the heading 'Theses of the Month'. We try to contact the authors and get copies relevant to American studies for the library. Besides these, our members send a copy of the thesis as soon as they submit one to the university. We have published a catalog *Indian Research in American Studies* (1977) which includes dissertations accepted and in progress by Indian scholars. The list is kept up-to-date in a card file. Another publication IDEAS (Indian Doctoral Engagements in American Studies) which has now merged with our *Indian Journal of American Studies* lists the thesis with short abstracts. This will help the future scholars to avoid duplication.

Another remarkable collection of the Centre is in microfiche. The *Library of American Civilization* has roughly 20,000 volumes, 90 percent of which were published before 1914. The entire collection fits into

two steel cabinets. We have two microfiche readers. Many of the out of print titles are located in this collection. Some of the titles in this collection are duplicated in our bound volumes but some of the periodicals which are not in our periodical collection are in microfiche. Some of t are *Arena* (1889-1895), *Architectural Record* (1891-1902), *Annual R of the Commissioner of Labor* (1886-1910), *Galaxy* (1866-1877), *Outlo* (1893-1905), *Southern Quarterly Review* (1842-1857).

The complete run of *New York Times* from 1851 to date is in our micr film collection. Some of the publications which are rare and difficult locate are also available in this collection. They are *Papers of the Conti nental Congress, 1774-89*; *Despatches from United States Consuls in Bombay, Calcutta and Madras, 1843-1912*; *Despatches from United State Consuls in Ceylon, 1850-1906*; *Records of the Department of State Relating to Internal Affairs of India and Burma, 1910-29*; *Records of the Department of State Relating to Political Relations between India and Burma, 1910-29*; *Records of the Department of State Relating to Political Relations between India and Burma and other States, 1910-29*; *Records of the United States Legation in China, 1843-1945*; *Records of the Department of State Relating to World War I and its Termination, 1914-29.*

We have a good collection of American art. Most of the art books are fully illustrated and they are oversize. In order to protect these books we have housed them separately in our art collection. Special wooden racks have been designed to keep these books upright. All the materials in our special collections have to be consulted in the library. They are not issued out on loan.

Periodicals form the back bone of the library. We have many of the journals from the year of starting to date. Wherever possible the gaps are filled in microfilm. We have a very simple arrangement. All periodicals are filed alphabetically by title. The card catalog of periodicals showing the holdings is also arranged alphabetically. Scholars find this arrangement very convenient to use. We have a special display rack to show all American studies journals from various parts of the world. Most of them are publications of the American studies associations. We get these journals in exchange for our *IJAS.*

We have complete runs of *American Historical Review, Atlantic Monthly, American Political Science Review, Annals of the American Academy of Political and Social Science, American Quarterly, American Literature, Harper's, Daedalus, Dissertation Abstracts International, Foreign Affairs, Journal of American History, PMLA, New York Times* (in microfilm) *Saturday Review, Scribner's, TLS,* and *Yale Review.*

We have standing orders for certain type of publications such as annuals and institutional publications and also with publishers such as Wilson, Gale, Bowker, and others.

We also have a good number of rare books collected over the years.

Many of the limited editions, first editions, and autographed copies are in this collection.

We were successful in procuring many out-of-print titles. We prepare want lists from time to time and send them to our representative in the United States who tries to locate them from various warehouses and sends them. According to Felix Reichmann, locating *Out of Print* titles is difficult and laborious and the vast majority of librarians reported their inability to assign enough staff time for this job. As an example he quotes from one of the letters received :

> Out of print searching, like the price of freedom, takes eternal vigilance and an attention to detail which can become tedious. Although we have tried all obvious methods such as compiling subject lists for subject specialists and faculty travelling abroad, area lists by country of origin, general lists to be searched through dealer's stock, other general lists to be searched on the open market, and advertising, we have never seemed to arrive at the successful combination for appreciably reducing our want lists. Dealers do not seem interested in searching our lists, we do not have staff time to check the dealer's catalogs through our desiderate.[2]

Another area of our interest is the government document collection. We regularly go through the *Monthly Catalog of United States Government Publications* and select titles of our interest. We have a deposit account with the Superintendent of Documents. We are keen on making the Centre a partially depository library because we are not interested in all the publications. Mostly we are interested in Senate reports, Congressional debates, Department of State publications relating to foreign relations. We have most of the publications with very few gaps in the series *Foreign Relations of the United States* which is in bound volumes, *The Congressional Record* and *Annals of Congress* are in our microfilm collection. We also make use of *The Bulletin of the Public Affairs Information Service*, for selecting titles which includes state documents, is even more selective than the *Monthly Checklist of State Publications.*

We have a separate audio-visual section which houses VTR's, tapes, records, microfilms and microfiche. We also have a slide projector and some slides. These are mainly used during seminars.

5 THE FUTURE

We intend to convert the whole collection into microfilm, we are trying hard to get funds for building a microfilming unit. We also would like to get reader printers for both microfilm and microfiche. Another dream to come true, is to computerize our holdings which will enable us to get print outs on specific topics.

In conclusion I have given below some necessary steps to be taken by the library for a good collection development.

1 The employment of specialists in several subject areas.
2 The development of a systematic program aimed at determining the lacunae in resources.
3 The development of a program whereby the library might utilize on a temporary basis certain faculty members in resource development.
4 The encouragement of more systematic planning by departments and colleges for resource development.

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COLLECTION DEVELOPMENT IN SPECIALISED AND RESERACH LIBRARIES

P P De

1 INTRODUCTION

An anticipation of demand is a rule of collection of library materials. Materials acquired by a special library should have some relevance with the parent organisation and to the potential need of its users. The main library collections for communication and information services in most of the Indian libraries are books including society publications, periodicals, standards, patents, reprints, trade literatures, maps, charts, transparencies, films, slides, microfilms, micofiches, film loops, tapes, etc. Naturally, due emphasis is being given for the procurement of those materials. In the present day where specialisation has become the order of the day, books render only the fundamental primary information. By the time books are published, the information contained therein becomes source of basic nature. The specialists/researchers of the day require the latest information in the fields of their specialisation/research, therefore, it becomes imperative to acquire relevant periodicals, proceedings, transactions, reports, etc. Periodicals, proceedings, etc are much more important than books so far as latest knowledge is concerned. Libraries attached to the institutions of higher academic study and research-work cannot therefore afford to be without periodicals. Moreover, the books and periodicals collection should be of a reasonable size so as to serve as a base for any research and development work in particular fields of their interest. Some of the technically and industrially advanced countries publish their periodicals only in their own languages which create problems for the librarians and the library users who are generally ignorant of those languages. Therefore, only the English language publications come to our rescue to provide us all required information on their progress. Now a days collections of libraries in advanced countries are transferred to microforms in place of paper document as large materials can be

stored in a small space and the pilferage may be minimised in this form. At present the growth of scientific and technical literature on a particular field is so enormous that it would be neither possible nor feasible to acquire all the technical and scientific literature when limited funds are available. As such, selection of literature as per budget allocation is very much required.

2 SELECTION OF LIBRARY MATERIALS

In developing countries like India, great responsibilities therefore lie on various types of specialists to keep themselves abreast of the latest developments on their fields of interest. The articles published in technical journals from time to time form a major source of information in this regard. There is also a tremendous upsurge in the inflow of technical literature and it is extremely difficult even for the specialised library/documentation centres/information centre to procure all the relevant materials. As such, the question of selection of materials is very much important as per budget allocation. In our NIFFT Library and Documentation Centre we spend half of our budget amount for the procurement of periodicals and other half for books, standards, films, microfiches, etc. In NIFFT there are four departments and we request the individual departmental head to submit a list of the books, standards, films, etc except periodicals in order of preference for the procurement in the financial year.

3 PROCUREMENT SYSTEM IN VOGUE

In India mainly the following systems of procurement are in practice.

3.1 Direct Procurement

There are many libraries, documentation centres and information centres in India which prefer to procure periodicals directly from the publishers. The system involves four stages :

(*a*) Requests for proforma invoice from the publishers for particular materials.
(*b*) Submission of proforma invoices along with completed application form to the State Bank of India for release of foreign exchange.
(*c*) Remitting the foreign exchange alongwith order for that material to the publshers in the shape of bank draft.
(*d*) Receiving the materials.

The above process involves a group of persons who are required to carry out the entire process effectively.

The advantages of this system are :

(*a*) Uninterrupted receipt of issues;
(*b*) Publisher being the prime source, there is practically no chance of over- or under-payment;
(*c*) No need for any further proof for the verification of rates; and
(*d*) There is less chance for the remitted amount being embezzled.

The system is however, not free from disadvantages, some of them are :

(*a*) Individual correspondence with each publisher at all stages which involves tremendous amount of file work;
(*b*) It is difficult to ascertain about the delivery against payment;
(*c*) Often when the supply is not received the question of supply or refund takes long correspondence;
(*d*) Publishers generally do not take that much interest for the supply of materials to the individual party as they take for the Agents; Perhaps, this may be due to less monetary involvement in case of individual party; and
(*e*) Standing order is not possible.

3.2 Procurement through Indian Agents

The advantages of procuring periodicals through Indian agents are :

(*a*) Correspondence is restricted to one party, i e agent concerned.
(*b*) Procedural formalities are very much reduced in respect of :

  (i) Payment; and
  (ii) complaints about missing issues, etc in case of periodical subscriptions, for which care is taken by the agent.

(*c*) The agent concerned consolidates the requirement and places centralised orders on behalf of individual parties;
(*d*) Recoveries from the agent who fails to supply the materials is easier;
(*e*) The savings of national foreign exchange : in case of direct procurement the party has to remit the full amount to the publisher but the Agents are getting some discount from the publisher, thereby, saving some foreign exchange of the nation;
(*f*) Certain Indian agents are now supplying the materials by registered post without any additional cost thereby avoiding any missing of materials; and

(*g*) Some Indian agents have now started air-speeded delivery of some of their agency periodicals, resulting the collection of information materials earlier.

The demerits of this process are :

(*a*) Inability on the part of the library/documentation centre/information centre to select a reliable agent and subsequently justify his rates which may, in many cases may be on higher side.

(*b*) Instances are not uncommon when agents delay payments of subscription to the publishers, leading to delay in receiving the periodicals against advance payment and in many cases resulting in incomplete volumes and causing gaps in collection.

(*c*) Often rates quoted initially remain under-charged and after receiving the payment the agents submit supplementary bills and they will remit the amount only after receiving the payment of supplementary bills.

(*d*) The institution/organisation mostly remains in the dark as to what has happened in respect of remittance unless a direct contact is established between the party and the publishers.

(*e*) In cases where the fake parties are accepted as an agent, the recovery both in cases of full or partial non-payment becomes a problem and often results in civil suits causing ultimate embarrassment to the party. A possible remedy to overcome this problem is to obtain a security deposit from the agents in favour of the party for which hardly any agent agrees. Moreover, execution of bond or agreement is no remedy unless supported by the security deposit.

(*f*) Change in the organisational and/or administrative set-up of the agents invariably causes erratic interruption, sometimes complete stoppage of supply.

4 PROCUREMENT THROUGH STATE TRADING CORPORATION

In principle, an idea to entrust any Central Government agency for procurement of library materials is an ideal one because it would eliminate the fear of embezzlement of library fund as well as to avoid embarrassment to library personnel in cases where agents fail to deposit the subscription amount in time. On the one hand it would avoid audit-objection and on the other it would also eliminate the complicated problems of verifying rates etc. A proposal to entrust State Trading Corporation as a centralised agency for the procurement of library materials is excellent. It is an autonomous government owned corporation, it may have direct

dealings with other countries of the world. The foreign publishers assured of their payment while dealing through a public agency would have extended credit facilities without any difficulty. As such, the time lag involved in this two-stage approach may help to collect complete volumes of the subscribed periodicals. However, it is important to remember that procurement of periodicals is a new venture by the government, hence a separate division of State Trading Corporation would be entrusted with this work. Of course, there could be some teething troubles but the system can function very effectively if they run this division by the librarians and the people from book trade. The frequent shifting, shuffling and transfers of staff may also be avoided to have more efficient service of the division.

4.1 Manning by Professionals

Another important aspect for consideration is that the procurement of periodicals is a part and parcel of the professional activities of the libraries, documentation centres, information centres and agents. It involves references from specialised periodicals and reference tools which obviously involve expert knowledge for consultation. It is not a layman's job, once taken-up, could be carried out easily. For any centralised agency it is important that it should function in an effective manner and with full professional bias. Therefore, it is essential that from the very inception, the Division of State Trading Corporation for this type of work, should employ professionally qualified librarians, documentalists, information scientists and the book trade personnel, who should be in a fit position to achieve the objectives of this scheme.

5 STORAGE IN MICROFORM

At present, information storage medium, which is being extensively used largely in advanced countries is microform, mainly microfilm and microfiche. Information covering 98 pages can be put on a single microfiche ($6'' \times 4''$). Budget may not be difficult as microfilm/microfiche is cheaper than paper. The prices of the library materials are increasing day by day. As a result, we have to minimise the procurement of library materials as generally budget remains constant in most of the cases. But by procuring in this form we can acquire more materials. Library is a growing oraganism, as such, most of the libraries have to face space problem. Microform copies offer saving of space cost. For proper utilization of library open-access system is desirable. But in practice more pilferages are found in open-access system and it may not be totally stopped in case of close-access system also. By adopting microform, the pilferage can be checked.

6 CONCLUSION

Procurement of library materials through Indian agents and directly offers several advantages and disadvantages as summarised earlier. The problems remain and can be overcome by introducing procurement through State Trading Corporation. The State Trading Corporation could be the most appropriate agency to undertake this work, provided it works effectively with a separate Division. Nevertheless, it is very important that to avoid any inconvenience State Trading Corporation should have a team of right type of personnel with sufficient experience and initiative to make this experiment a success. Changing storage medium from pater to microform, the space and pilferage problem can be minimised.

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COLLECTION DEVELOPMENT POLICY AND PHILOSOPHY IN COLLEGE LIBRARIES

S SHARMA
S SINGH

1 INTRODUCTION

In the present epoch, purposeful reading has become a main requisite for ensuring the necessary rates of social advancement. Reading is one of the most ancient means of bringing knowledge and culture within the reach of people. The role of books in society is changing. Thirst for reading and a wider dissemination of books have become a sign of progressiveness in the world. This process has been caused by undergoing socio-economic changes in our society. Under the impact of social changes the problems of reading acquire a new character. The amount of materials read in a given population depends upon the availability of reading materials. It draws people into a more active life. The educative function of reading is especially important in regard to the younger generation. This has raised the significance of libraries as the centre of attention. Libraries, custodian of wealth of books, become the principal base for continuity. Many research works are going on this burning point in the world. A group of Soviet scholars have carried out a comparative analysis of the time budgets of the urban population in 13 socialist and capitalist countries, which reveals how many minutes daily each person, on an average spends on reading (Chubaryan, Moscow, 1971).

A survey of Ibaden City's library indicates that science and technology are the subjects most in demand, followed closely by the social sciences. This is due to the high premium placed on scientific and technical education at the stage of development. Most students want to be doctors, engineers and scientists and they will turn to law, economics or history if they cannot make the sciences (Ogunsheye, Ibaden, 1967).

Research in Hungary has already taken a considerable step toward eliminating the unknown about reading. This also implies that libraries

are undertaking to determine the value of reading and the reader's perception of his reading (Kamras, Hungary, 1969).

Library facilities should be developed as a part of total programme of a college. The collection of a college library should be a live one. A sense of the purpose and aims of library service helps to enter into the philosophy of collection development in a college library.

2 CONCEPT OF LIBRARY

The traditional concept of library as a depositing of books and manuscripts has radically changed with the new media of recorded information. Today library is a communication centre processing a wide range of materials and is often termed as 'Resource Material Centre'. In addition to conventional forms of documents, manuscripts, books, periodicals, pamphlets, report and other traditional forms of printed matter, new types of documents are also found in them. These non-convential forms of documents include maps, charts, micro-documents, slides, phonograph records, tapes etc. The collection development of any library depends on the professional competence of the librarian who evaluates the essential features of an item. Libraries now offer a great variety of materials, which may attract the users and meet their requirements in a better manner. In the Indian context, many students do not have a proper place to read at home. Therefore, it is essential that a college library should provide facilities for comfortable reading.

3 SELECTION OF MATERIALS

The collection developer is responsible for the development of the collection as whole. He/she must organize and reorganize the selection acquisition and maintenance process of library from time to time. Lestar Asheim once remarked that "it is here [selection of materials] that we exert however indirectly, our greatest influence on the public we serve and the total society of which the public is a part."

In colleges each department is being allocated money for the purchase of materials. Subject experts are invited for selection. Thede cision making in selection and rejection is in the jurisdiction of the collection developer, books selection aids and lists of books must be made available to teachers. Books sent for approval are examined personally by teachers and then final decisions are made. For reference tools there are separate grants allotted. A particular subject may get preference over other subjects in a particular year. For periodicals also there are special grant.

4 PRESENT STUDY

4.1 Survey

With reference to this a survey has been done about the availability of

reading materials and reading habits and interests of students of Garhwal University and its affiliated colleges, ie, Dehradun, Mussoorie, Rishikesh, Gopeshwar, Uttarkashi, Chamoli Kotdwara etc.

4.2 Sample

The sample of present study consists of randomly selected under graduate students of Faculty of Arts, Science and Commerce department of Garhwal University, Both the sexes have been considered. The data has been collected on 450 students, out of which 431 have been found to have correctly filled the questionnaire, age ranges from 16 years old to 24 years because students come after intermediate course in degree section.

4.3 Tools

The data collection has been done through questionnaire method. Following tools have been used :

1 Questionnaire of reading habits and interests (self-prepared).
2 Socio-economic status scale (Kulshrestha 1974-75).
3 Test of general mental ability (Intelligence, Joshi, 1969).

As the nature of problem demands the data collection has been done in class room as well as in the library setting with the help of various above tools related to the variables of the present survey work.

5 RESULTS

From the results obtained, the important findings concerning RH and RI (Reading habit and Reading interest) may be summarized as following :

1 There is a regional difference in reading patterns of both the sexes.
2 Difference exists in the RI scores of students of forward and backward regions.
3 Girls have been mostly interested in reading film-world, fashion and forecast columns of newspapers and magazines. The highest responses have been found from Mussoorie, Dehradun and Tehri, Uttarkashi girls. Boys of Tehri, Uttarkashi, Mussoorie read more sports and political crime news and scientific columns (Tables 3, 4).
4 Students of high academic-achievement devote more time in reading books than reading newspapers and magazines.
5 Boys and girls both give preferences to read course books more regularly than general reading materials (Table 3).

6 Some students at this level have a habit of consulting reference books such as encyclopaedias, dictionaries, abstracts etc. For this purpose they used to go to libraries and avail there reading materials.
7 Girls prefer to read subjects such as humanities, social sciences and fictions whereas boys indicate more choice towards science, sports, detective stories etc.
8 College students read various reading materials mostly due to different motivations, i e to get through in the examinations, to increase knowledge and to pass time, etc (Table 4).

6 DATA ABOUT COLLEGES

The investigator asked from different college librarians affiliated to Garhwal University to send the accounts related with its allotement of budget for last 5 years for purchase of books and journals. Year 1980-1984 has been considered but regret to say only few responses have been received. Table 1 and 2 show the position of the colleges.

Table 1 : Collection of Books and Year of Establishment of Different Colleges

S No	*Name of the College*	*Date of establishment*	*Number of collection books*
1	Govt Degree College Jaiharikhal Lansdown	1972	7,000
2	Muncipial P G College Mussoorie	1963	13,334
3	Govt Degree College, Karanprayag	1979	2,078
4	Govt Degree College, Chambal	1979-80	1,758
5	M K P College, Dehradun	1959	36,715

From the results obtained here few examples are shown through tables and graphs. The pooled percentages of data have been converted in weighted means. Table 2 shows interest of students in reading various columns of newspapers (see also Fig. 2).

Table 2 : Budget Allotted for Different Colleges.

(Budget Allotted for Purchase of Books and Journals Every Year) (1980-84)

Name of College	*1980-81*	*1981-82*	*1982-83*	*1983-84*
Govt Degree College, Jaihari-khal, Lansdown	Rs 1,800 + 1,500 + 7,000	7,000 + 1,000 + 6,000	6,000 + 1,000 + 1,500	6,000 + 1,500 + 1,000
M P G College Mussoorie	No Govt grants but from own funds	—	—	—
Govt Dergree College, Karnaprayag	3,500	3,500	3,500	3,500
Govt Degree College, Chamba	3,000	2,500	2,500	5,000
Govt P G College, Uttarkashi	3,500	3,500	2,800	2,800
M K P (PG) College, Dehradun	53,790.34 + 6,954	57,935.26 + 6,092	53,430.52 + 6,589	46,505.15 + 7,580

Table 3 : Reading Interests of Students

Group	*Columns of Newspapers*	*Weighted Mean of Percentage*
A	International News	40.00
B	Local News	29.00
C	Advertisement	22.70
D	Scientific	26.30
E	Book Review	14.20
F	Film World	29.07
G	Comics, Stories etc	26.21
H	Crime News	17.40
I	Political News	23.97
J	Forecast	34.33
K	Editorial	11.13
L	Literary Essays	18.42
M	Sports	47.56

Table 4 shows the percentage of responses for liking of different type of magazines by both the sexes (see also Fig. 1) :

Table 4 : Response for Liking of Differents Types of Magazines

Sections	*Uttar-Kashi*	*Mussoorie*	*Rishi-kesh*	*Dehra-dun*	*Gopesh-war*	*Tehri*	*Sri-Nagar*
Boys—Percentage of Response							
Entertaining	60.0	61.0	17.0	59.0	51.0	72.0	68.0
Film world	40.0	3.0	13.0	18.0	18.0	13.0	7.0
Scientific	23.0	24.0	17.0	27.0	23.0	50.0	13.0
Literary	23.0	23.0	6.0	18.0	33.0	31.0	36.0
Related with course books	53.0	37.0	13.0	35.0	23.0	50.0	26.0
Girls—Percentage of Response							
Entertaining	100.0	67.0	23.0	91.0	3.0	70.0	50.0
Film world	23.0	50.0	60.0	62.0	6.0	29.0	6.0
Scientific	52.0	31.0	5.0	20.0	3.0	5.0	12.0
Literary	47.0	6.0	0	27.0	12.0	27.0	25.0
Related with course books	70.0	6.0	5.0	54.0	3.0	52.0	1.0

Some question were related with courses of reading the materials by both the sexes. It includes mood, class test, interest, curiosity, fear of parents, pass the examination, passing time and to increase knowledge, Table 5 shows the weighted mean of percentages of both the sexes and it is depicted through graph also (Fig. 6).

Table 5 : Weighted Means of Percentages of Responses

Group	*Causes*	*Weighted Mean*
A	Mood	17.40
B	Class test	6.26
C	Interest	29.33
D	Curiosity	10.90
E	Fear of parents	2.55
F	Pass in examination	28.77
G	Pass time	4.17
H	Increase knowledge	61.02

Responses given for the questions asked about reading of subject books shows the percentages given in Tables 6a and 6b.

Table 6a : Sexwise Reading Interest for different Subjects

Subject Books	*Boys*	*Girls*
Social-Science	15.10	33.00
Humanities	6.40	51.00
Pure-Science	21.00	13.78
General	4.71	15.61
Fiction	2.51	4.20

It has been shown through bar diagram, too (Fig. 3). Responses given for reading other books read by both the sexes show the following percentages (see also Fig. 4).

Table 6b

Other Books	*Boys*	*Girls*
Social Science	14.3	7.0
General	10.0	9.0
Fiction	16.5	14.3
Humanities	5.0	6.0
Pure Science	23.0	5.0

Students have given responses for tendency to read authors such as Bahl, Kochhar, Tuli, Pandey, Vashishtha, Kotpal, Subhash, Satish, Sharma, Chatterjee, Varma, Khanna, Ray, Soni, Gambhir, Saxena, for science books. In social science and humanities the choice is for Jain, Garg, Gupta, Elhance, Chauhan, Shukla, Rastogi, Verma, Mathur, Pathak, Kalidasa, Nagar, Shakespear, Mamoria, Mukherjee, Prasad, Goyal, Nathuramka, Patni, Vaishya, Chatterjee, Cruthfield, Munn, Page, Sharma, Mittal, Goel, Dubey, Shastri, Dandi etc.

Reading fiction and general books shows the choice about Anand, Cartland, Renu, Nanda, Samir, Bajpai, Verma, Thakur, Shivani, Rajhans, Joshi, Premchand, Mitra, Nehru, Holmes, Lawrence, MacLeans, Chase, Nagar, Lapiere, Galsworthy Bacchan, Gandhi, Christie, Bharti.

Comparative data has been given also showing the reading materials facilities and accomodation etc, subjects preferred by students available in university and college libraries of Garhwal (Table 7-10). Foundation stone of modern educational structure is a well-equipped and well-managed library.

Table 7 : Total Number of Journals and Periodicals and Newspapers Subscribed

College	*Number of Journals*	*Number of Periodicals and Newspapers*
SRT College, Tehri	10	20
Birla Government College, Srinagar (Garhwal)	48	30
Government PG College, Uttar Kashi	4	2
Government PG College, Kotdwara	—	12
DBS College, Dehradun	30	40
Government Degree College, Lansdown	—	15
SGRR College, Dehradun	10	5
MKPG College, Dehradun	25	75 + 10
DAV College, Dehradun	—	76 all total
DWT College, Dehradun	10	5
Government College, Karnaprayag, Chamoli	6	—
MPG College, Mussoorie	50	—

Table 8 : Sitting Accomodation in Reading Room and Number of Students Visiting Library Daily

College	*Number of Reading Seats*	*Average Number of Users Visiting per day*
SRT College, Tehri	40	175
Birla Government College, Srinagar	Space 40′ × 30′ in stack room. No separate reading room	150
Government PG College, Uttar Kashi	30	40
Government PG College, Kotdwara	20	60
DBS College, Dehradun	250	750
Government Degree College, Lansdown	A verandah is used as a reading room	30 Science/Arts faculty as alternate days
SGRR College, Dehradun	20	26
DWT College, Dehradun	20	26
MKRG College, Dehradun	100	104 Reading Room Stack issue- 90-Section 30 Book bank.
DAV College, Dehradun	200	300 Stack issue Section 350 Reading Room.

7 PROBLEMS OF COLLEGE LIBRARIANS OF GARHWAL UNIVERSITY (SRINAGAR) AND ITS AFFILIATED COLLEGES

In college libraries mostly students use subject-wise text books and therefore every year librarian keeps in mind to purchase the collection according to requirement of users. But still college libraries are not getting proper accomodation and grants etc. University Grants Commission is also not paying much attention towards future of libraries and librarians

Table 9 : Most and Least Prefered Subjects

College	*Most Preferred Subjects*	*Least Preferred Subjects*
Birla Government College, Srinagar	Science subjects, Physics, Chemistry, Botany, Zoology	Sociology and Anthropology
SRT College, Tehri	Economics	Sanskrit
Government PG College, Uttar Kashi	Botany	Physics
Government PG College, Kotdwara	Economics	Sanskrit
DBS College, Dehradun	Chemistry	Military Science
SGRR College, Dehradun	Education	General
MKPG College, Dehradun	Fiction, Economics, English, Political Sc, Science, Sociology	History, Math
DAV College, Dehradun	Commerce	Music
DWT College, Dehradun	Education	General Books

which is the utmost need of nation today, common attitude towards librarians should be changed also. Because it is rightly said by our late Prime Minister Nehru, 'A library is the key to the knowledge of the world'.

School administrators, librarians and teachers must continue their efforts to provide reading materials and increase the collection that meets the needs and interests of their users. A good library should be evaluated from time to time to measure the effectiveness of its work which will be useful in collection development.

Though the country is progressing in so many fields but due to authorities some fields are still neglected. College librarians are facing some problems and few of them have been summarized here.

7.1 SRT College, Tehri

1 Shortage of staff.
2 Shortage of accomodation in library.
3 Catalogues are not maintained.
4 Closed access in library.

7.2 BIRLA GOVERNMENT COLLEGE, SRINAGAR

1 Shortage of technical staff one man library.
2 No cataloguing and classification due to staff problem.
3 Closed access in library.
4 Shortage of accomodation in stack room.
5 No arrangement for research scholars.
6 Setting in controversial—Government and University.
7 Grade of Librarians—problem.

7.3 GOVERNMENT PG COLLEGE, UTTARKASHI

1 Acute problem of grants for journals and periodicals.
2 College founded in 1980 with B Sc subjects-and now post-Graduate college in 5 subjects.
3 Problem of revision of grades by UGC for librarians.

7.4 GOVT PG COLLEGE, KOTDWARA

1 Shortage of staff, only two staff.
2 Shortage of accomodation in library.

7.5 DBS COLLEGE, DEHRADUN

1 Inadequate staff of library (technical and non-technical) both.
2 Irresponsibility of library users.
3 Tearing of the pages, maps, diagrams and catalogues.
4 Stealing of books.
5 Thankless attitude towards library staff.
6 Lack of interest towards using library catalogues and classification numbers.

7.6 GOVT DEGREE COLLEGE, LANSDOWN

1 Problem of accomodation and building. Library is situated in a hostel. No proper building.
2 UGC grade about librarians.

7.7 SGRR COLLEGE, DEHRADUN

No proper trained staff.

7.8 MKP (PG) COLLEGE, DEHRADUN

1 Problem of accomodation having a rich and standard literature but problem of proper display due to building problem.
2 So many research scholars but no separate cubicle for them.
3 No separate periodical section.
4 No separate sitting place for teachers in the library.

Table 10 : Availability of Reading Materials in College Libraries of Garhwal University, Srinagar

	SRT College, Tehri, Garhwal	*Birla Govt College, Srinagar*	*Govt PG College, Uttarkashi*	*Govt PG College, Kotdwar*	*DBS College, Dehradun*	*SGRR College, Dehradun*	*MKP (PG) College Dehradun*	*DAV College, Dehra-dun*	*DWT College, Dehra-dun*	*Govt Degree College, Lansdown*
Total No. of books	15,550	16,500	8.000	10,058	18,890	5,981	36,715	56,488	5,981	3,065
Subject-wise										
Hindi, Lit	1,000	1,460	545	1,207	1,674		9,229	4,684	733	319
English Lit.	700	1,120	353	776	1,408		3,992	4,676	238	339
Political Sc	600	1,285	927	585	NA		3,371	2,759	157	NA
Economics	1,100	767	576	764	2,362		3,069	4,618	118	143
Sanskrit	600	1,321	602	632	NA		1,260	2,335	NA	162
Mathematic	900	1,072	574	NA	1,881		679	2,448	96	371
Physics	1,000	1,263	641	530	1,852		NA	2,610	NA	468
Chemistry	1,200	1,050	760	1,510	1,645		1,181	2,522	NA	261
Zoology	1,000	1,026	539	783	1,051		1,248	1,855	NA	188
Botany	900	874	800	957	2,025		1,100	1,876	NA	183
Sociology	600	263	NA	NA	706		3,328	2,646	175	NA
Geography	700	132	429	540	1,370		NA	1,632	35	98
History	100	702	697	507	NA		1,231	2,878	88	NA
Education	1,000	1,390	NA	NA	32		170	1,240	2,302	—

Commerce	800	352	557	710	NA		NA	2,854	NA	—
Law	1,200	NA	NA	NA	NA		NA	3,154	NA	—
Psychology	NA	—	NA	NA	NA		724	1,500	251	—
Biography	—	—	—	—	—		261	—	67	NA
General	—	1,568	—	557	656		1,480	4,676	1,039	533
Tourism	NA	60	—	—	—	—	NA	—	—	—
Journalism	NA	255	—	—	—		NA	—	—	NA
Military Sc	NA	NA	NA	NA	886	NA	NA	NA	NA	NA
Religion Culture	—	—	—	—	128	—	390	—	18	—
Geology	NA	100	NA	NA	1,191	NA	NA	NA	NA	NA
Anthropology	NA	280	NA	NA	NA	NA	NA	NA	NA	NA
Archaeology	NA	340	NA	NA	NA	NA	NA	NA	NA	NA
Drawing and Painting	NA	NA	NA	NA	NA	NA	727	1,343	40	NA
Home Science	—	—	—	—	NA	NA	1,143	NA	86	NA
Music	—	—	—	—	NA	NA	713	919	NA	NA
Statistics	—	—	—	—	—	—	—	1,325	84	—
Linguistics	—	—	—	—	—	—	—	—	124	—
Philosophy	—	—	—	—	—	—	11	—	123	—
Reference	—	—	—	—	—	—	1,402	—	—	—
Book Bank	—	—	—	1,000	1,000	447	5,000	—	—	—

5 Discrimination in attitude of staff towards teaching and non-teaching.
6 Revision of UGC grades of librarians.

7.9 DWT College, Dehradun

1 There is no adequate accomodation.
2 College is purely a teachers training college and the number of seats provided by the university is 100 only.

7.10 DAV College, Dehradun

1 Acute shortage of books for students in the library.
2 Acute shortage of books for students in the book bank scheme.
3 The rule of "books for 14 days only" has totally failed.
4 Increasing tendency to demand only text books by Indian authors, that too in Hindi only.
5 Acute pressure for books for competitive examinations.
6 A good number of books never returned to library every year because of either some leave the college in mid-term or some manage to sit in examination with clearance slips.
7 Increasing mutiliation, damage and loss of books.
8 Inadequate staff in quantity and quality both.
9 Departmental libraries not functioning statisfactorily.
10 So much overtime hours work without rules and facilities.
11 Even the staff (teaching and non-teaching) do not follow library rules.
12 UGC Grades.
13 Leave facilities with teaching staff.

8 FEW SUGGESTIONS

Collection developer is responsible for development of collections in his/her library. Therefore, he/she has to play a dynamic role. From time to time he/she should consult the subject experts. Publishers'/bookseller's catalogues should be consulted because the decision making in selection and rejection is in the jurisdiction of collection developer. Reference books and rare sets of books should be purchased from special grant because if he/she builds up his/her collection on the basis of some kind of qualitative standards which represent a great variety of interests and opinions then he/she will get sure success. He/she should select the books giving preference to the subjects and demand. A particular subject may get perference over other subjects in a particular year. National and international bibliographies are helpful to consult any particular subject. New

journals and periodicals coming daily in the market should be introduced from time to time and the old ones which have no value for consultation should be curtailed, because in colleges the monetary problem arises.

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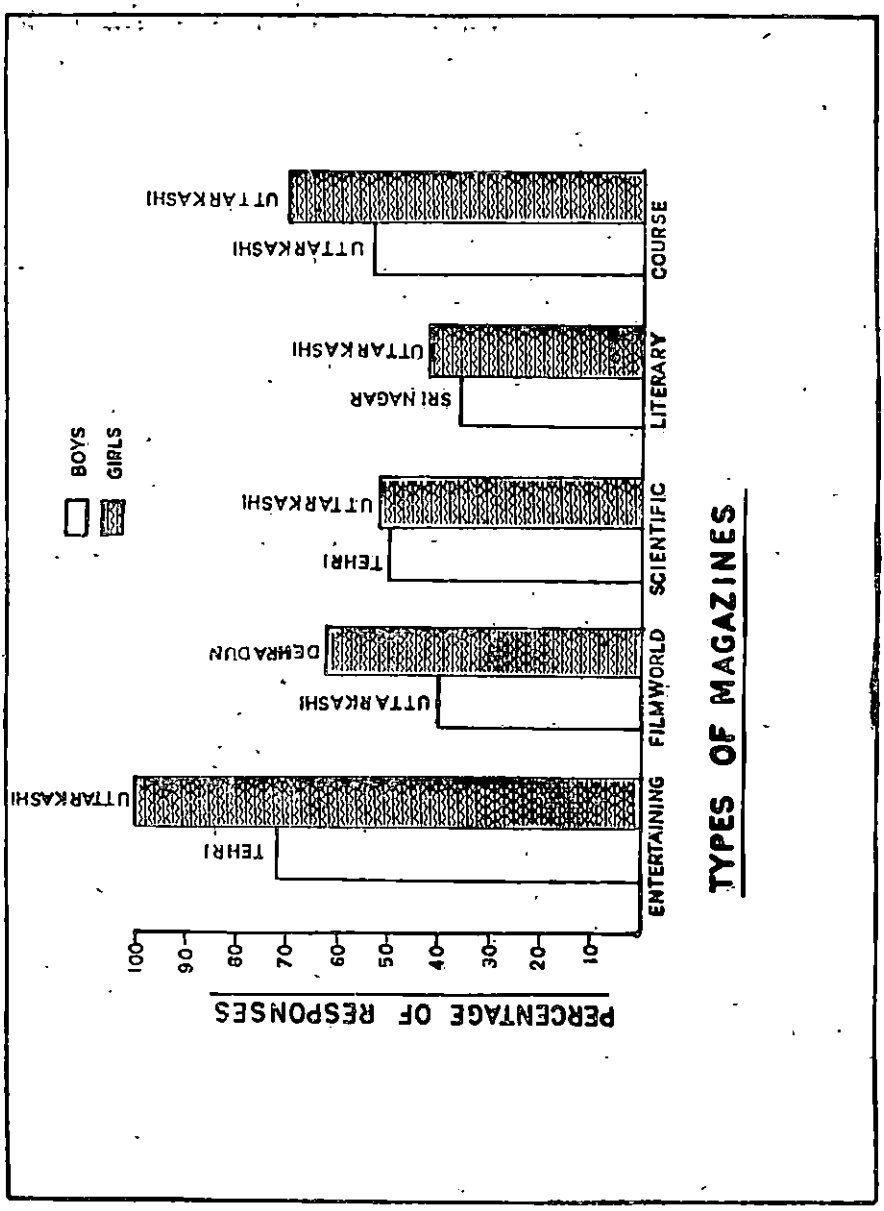


Fig. 1 Showing percentage of highest responses among the boys and girls of seven regions for different types of magazines.

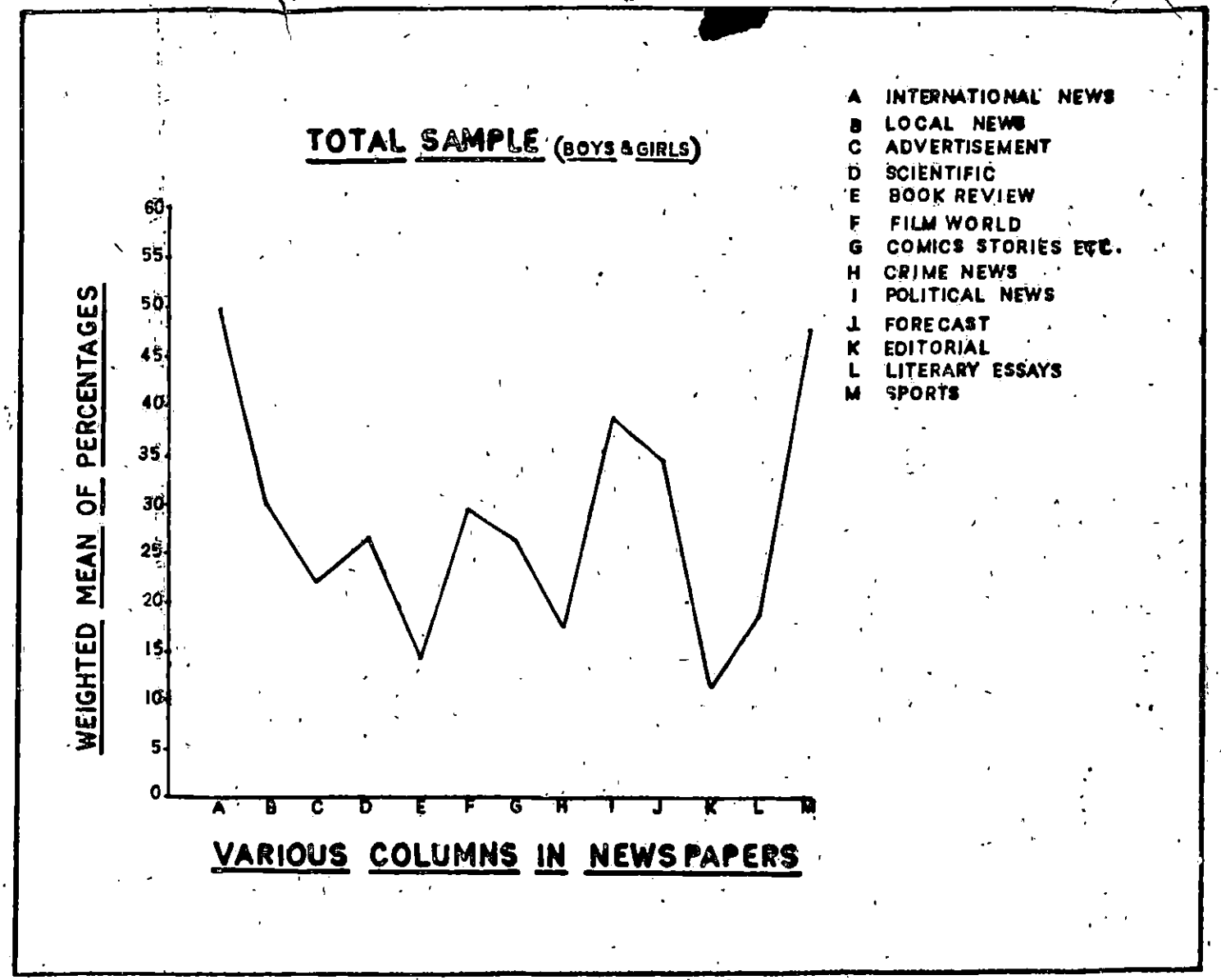


Fig. 2 Showing interest of students in reading various columns of news papers.

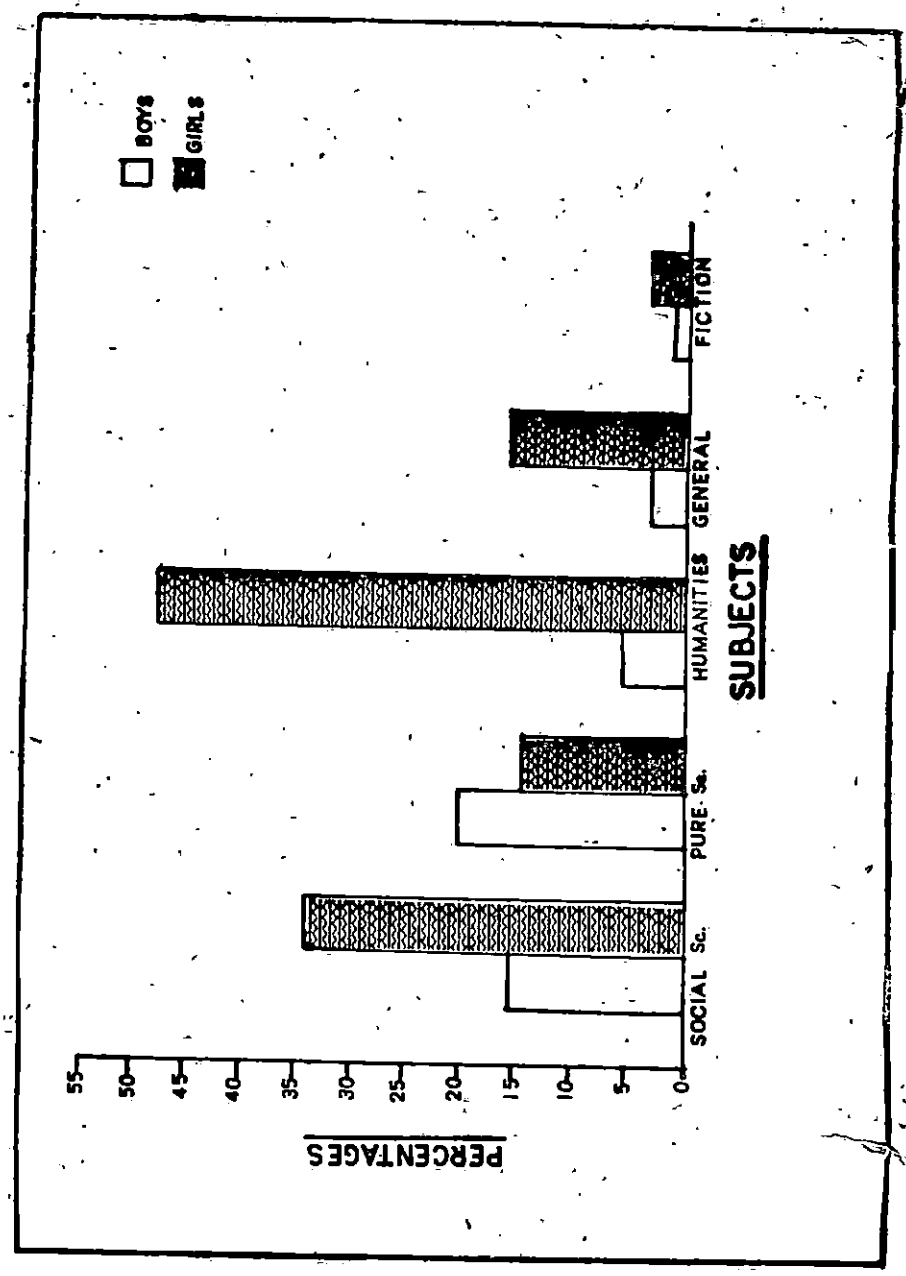


Fig. 3 Showing percentages of subject course books read by students of seven regions.

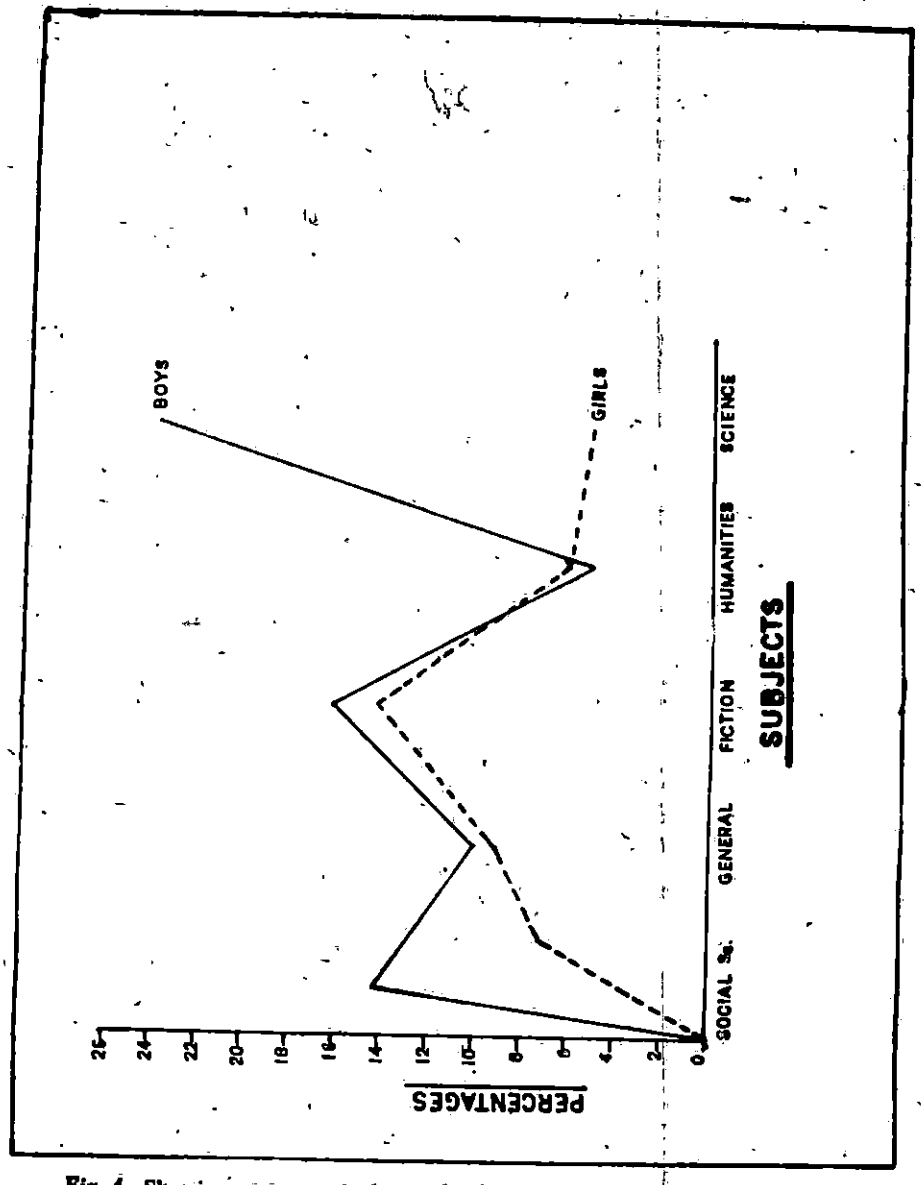


Fig. 4 Showing percentages of other books read by students of seven regions.

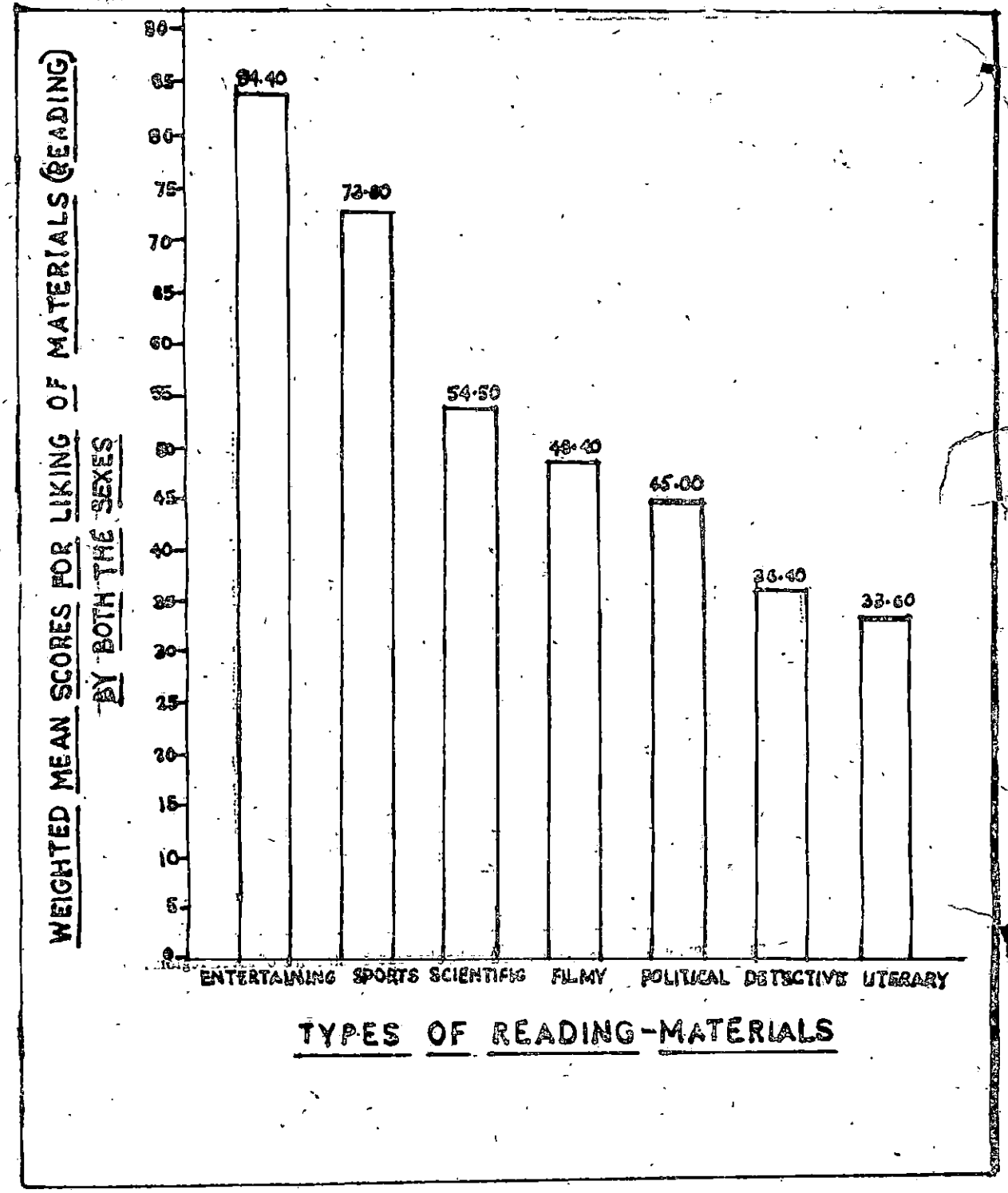


Fig. 5 Showing weighted mean scores of total sample for liking of different readings materials.

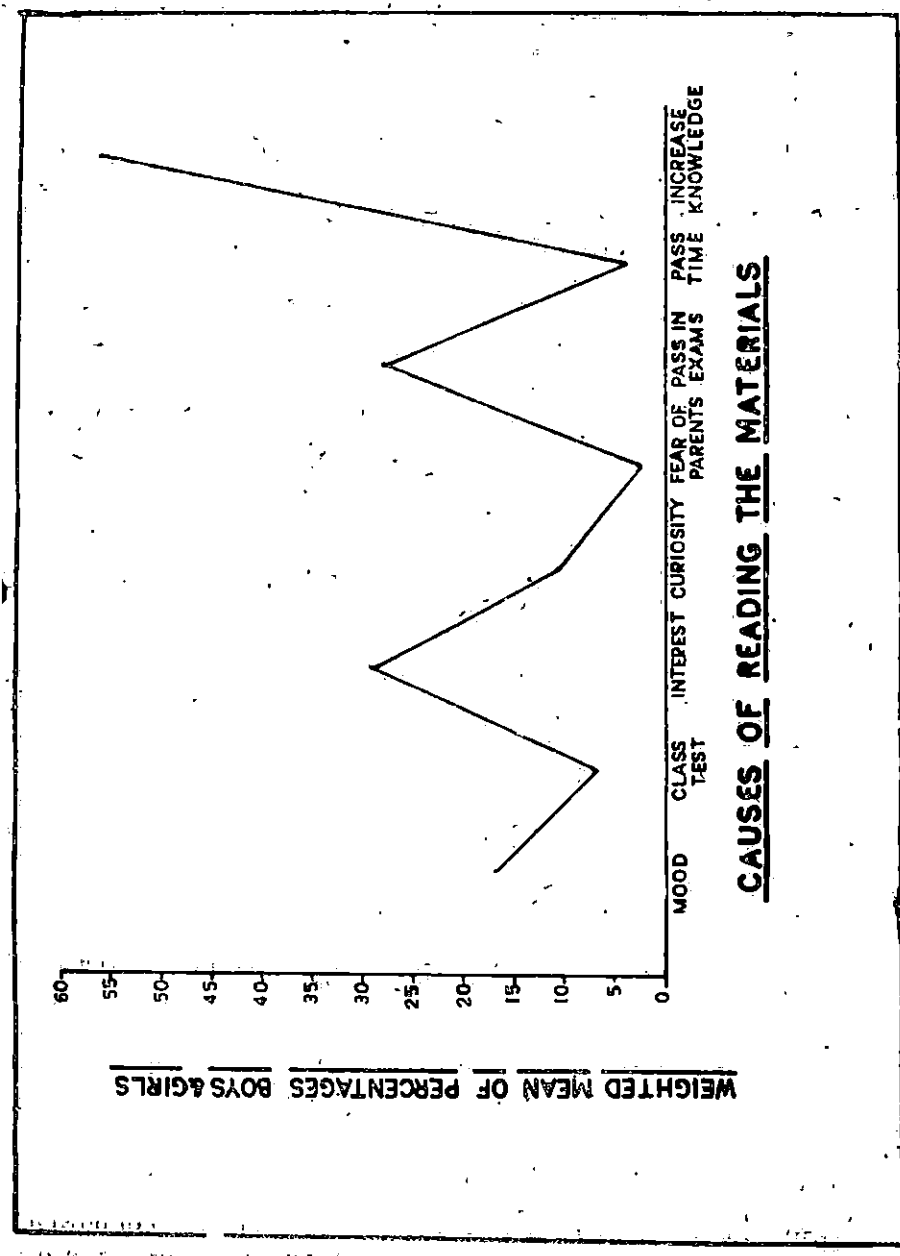


Fig. 6 Showing the weighted mean of percentages and causes of reading the materials by both the sexes.

COLLECTION DEVELOPMENT THROUGH RESOURCE SHARING : A PLEA FOR COOPERATION BETWEEN DUL, JNUL AND ZHL

A R Sethi
S Majumdar

1 THE YEAR 1944

Dr S R Ranganathan makes a strong plea for a national library network of national, state, university, public and school libraries in a pamphlet. Six years later appears his Library Development Plan outlining a 30 year programme. Both these plans envisage a sound system of library cooperation.[1]

2 THE YEAR 1984

Recommending a national policy for library and information services (L & I services) for the country, the Working Group of the Planning Commission on Modernisation of Library & Information Services and Informatics for VII Five Year Plan, laments : "Unless a coordinated programme is established on a nation wide level, expenditure, facilities and efforts will continue to be unnecessarily duplicated and interconnection will become increasingly difficult. . . ."[2]

The year 2004 may see yet another Ranganathan/Working Group making a plea for a coordinated effort in the field of L&I services for the country, if the present pace in this direction is a pointer. Not that the country has made any mean progress in the library field during the last 40 years; no, it has been phenomenal, number wise. On the contrary, as pointed out by the Working Group, "expenditure, facilities and efforts continue to be unnecesarily duplicated." What has not occurred is a shift in our philosophy of 'augumentation of local holdings' to that of 'providing access to the holdings of others.' We continue to adhere to the view that there

is no substitute for having a large amount of material locally available to permit the user to determine relevance. The realisation is yet to dawn upon us that the concept of resource-sharing is making the maximum amount of literature available to the maximum number of users without a proportional increase in expenditure.

3 COOPERATION AT LOCAL LEVEL

Resource sharing, or library cooperation has been the topic of many a seminar and conference in the country. Various plans and programmes have been discussed and debated with the result outlined above. One of the reasons for the failure to achieve cooperation, in our reckoning, is envisaging cooperation at the national or the state level, rather than at the local, that is city level. India is no Sweden and Uttar Pradesh is no Stockholm in terms of size and population. Additionally, the structural barriers like the inadequate or inefficient means of communication and transport, financial and manpower constraints, rule out the feasibility of library cooperation at the national or state level, pending the introduction of high-level information technology in the country.

However, this inadequacy should not deter us from trying various cooperative schemes at the local—city and district—level, where a plethora of libraries exists. But the experience of the past tells us that cooperation between libraries of different types, under different authorities, does not bear results. Library cooperation is best achieved amongst libraries of the similar type. Cooperation can be made all the more effective and smooth-running if the participating libraries derive their sustenance from the same source.

4 PARAMETERS OF THE STUDY

In view of the above considerations, we have selected Delhi as the target of our study. Besides being compact, the city enjoys comparatively better transport and communication facilities. Above all, three central university libraries are located here all of which depend on UGC for their grants. It is rather strange that in spite of coexisting for decades, these three libraries, viz the libraries of Delhi University, Jamia Millia Islamia and Jawaharlal Nehru University, have evolved no common policy for their operations. Each library in its blissful ignorance continues to duplicate expensive reading material acquired by the other library a couple of miles away. The purpose of this paper is to : (1) highlight the duplication of material in the three libraries, and (ii) suggest a model of cooperation. This study is limited to only (i) cooperative collection development; (ii) in the field of social sciences.

5 ABOUT THE THREE LIBRARIES

5.1 Delhi University Library (DUL)

With a collection of about 10,00,000 volumes and a clientele of about 40,000 to serve, Delhi University Library is the largest of the three. It is a system consisting of some 20 Departmental Libraries scattered all over Delhi. Each library is autonomous to a great degree in the matter of acquisition, maintenance and servicing of material. Its social science collection is mainly acquired in the Central Library and the Rattan Tata Library (RTL) of Delhi School of Economics. RTL is also the depository of United Nations documents. Other special collections of this system are in the fields of African, Buddhist, Chinese and Japanese studies. We shall treat in this paper all these collections as belonging to DUL.

5.2 Jawaharlal Nehru University Library (JNUL)

JNUL is the newest of the three libraries, though not the smallest. Established in 1969, it inherited more than 70,000 volumes from the merger of Indian School of International Studies with the Jawaharlal Nehru University in 1971. It is this collection which confers upon JNUL a distinct position in the area of international relations and area studies. Its collection of Russian language material is perhaps richest in the country. The total collection of the library stands somewhere near 3 lakhs.

5.3 Zakir Husain Library (ZHL)

Established in 1920, Zakir Husain Library of the Jamia Millia Islamia is the oldest university in the city. Its grandeur cannot be measured in terms of the numerical strength of its collection, which is only about 1,40,000, but in its richness its Islamic orientation makes it unique. The medieval period of Indian history gets itself transformed into books on the shelves of this library. Manuscripts in Arabic, Persian and Urdu languages are the other salient features of the collection of this library.

6 DUPLICATION : A CASE-STUDY OF PERIODICALS

Apparently, the collections of the three libraries being complimentary to each other, the question of duplication should not arise. But a look at Table 1, showing the extent of duplication of foreign periodicals among lhe three libraries will dispel this belief.

Table 1: Duplication of Social Science Periodicals amongst DUL, JNUL and ZHL

Libraries	*Subjects*					
	Geog	*Hist*	*Pol Sc*	*Eco*	*Soc*	*Total*
JNUL-DUL	11	54	14	78	44	201
JNUL-ZHL	5	19	9	13	15	58
DUL-ZHL	3	12	6	12	10	43

Source: Periodicals subscription lists (1983) of the three libraries.

Taking the average price of a foreign social science periodical to be $ 100, the duplication of expenditure will be of the order of—

JNU-DUL	Approx.	Rs	2,00,000
JNUL-ZHL	Approx.	Rs	55,000
DUL-ZHL	Approx.	Rs	40,000

7 USE OF PERIODICAL LITERATURE

This duplication of expenditure seems to be all the more wasteful when we look at the effective use being made of the periodical literature. According to a citation study done by Girja Kumar and Jayaswal in the field of use of foreign sociology periodicals in India, "there are no more than 8 periodicals (out of 54 foreign sociology periodicals received in the libraries of JNU, Delhi School of Economics and Institute of Economic Growth) of which effective use is made in this country."[3] Another study made by A L Kapoor on the basis of citations in the dissertations submitted in the Delhi School of Economics suggests that the number of highly ranked foreign economics periodicals from Indian point of view is not more than 20.[4] These figures may be seen in the light of huge expenditure being incurred on periodicals in these two subjects. If the similar expenditure being incurred in other area like yearbooks and almanacs, reference publications (not of ready reference nature), government publications, etc is aggregated, the figure would be a collossal one. This fact alone should spur the authorities of the three libraries to think in terms of cooperative acquisition policy.

8 BASIS FOR COOPERATIVE ACQUISITION POLICY

What should be the basis for cooperative acquisition policy among the

three libraries? Over the years, each of the three libraries has come to acquire certain amount of specialisation in one or the other subject area. Table 2 clearly brings it out.

Table 2 : Special Collections of DUL, JNUL, ZHL

DUL	*JNUL*	*ZHL*
Human Geography	History—Modern India	Islamic Stndies
History	Regional Studies—India	
Economics	Political Science	
Sociology	International Relations and Area Studies	
African Studies	Asia	
Chinese, Japanese and Buddhist Studies	Europe USSR America	

This specialization of subject collections may serve as the basis for co-operative acquisition policy for the future as well. Let there be an agreement—in black and white—between the three libraries not to encroach upon other's territory, and at the same time an agreement to place one's collection at another's disposal.

9 PREREQUISITES TO BE MET

It is always easier said than done. Cooperation cannot start without certain prerequisites having been met. Among these are :

9.1 Behaviour Modification

The failure to achieve cooperation has generally been attributed to the lack of appropriate technology in the country. But the fact of the matter is that the problems associated with resource-sharing/cooperation have more to do with behaviour modification than with technology. This preposition has eluded us so far, let it not elude us any more.

9.2 Bibliographic Apparatus to Permit Access

A union catalogue of the existing holdings of the three libraries and the arrangement which allows exchange of information about the additions and deletions in each other's collections in future, are the starting

points of cooperative acquisition policy. Given the resources, this does not seem to be an unattainable goal. A start can be made with publications like periodicals, serials, reference works, official documents etc.

9.3 Standardization

For cooperative acquisition policy to succeed, it is desirable, if not essential, that the concerned libraries follow similar codes and practices. This facilitates exchange of information. DUL and JNUL, steeped in Ranganathan tradition as they are, follow more or less identical codes. The same, however, cannot be said of the ZHL. An agreement, therefore, to follow identical procedures may be necessary.

9.4 System for Delivering Materials

Cooperative acquistation is not by itself the end. To be meaningful it is to be followed by exchange of materials and/or by facilitating access to one's collection to the members of the other library. An efficient system of transporting men and material has therefore to be provided. A van for the material and a DTC's regular Library Special, connecting the three libraries, for the readers are the prerequisites which can be met without much difficulty.

9.5 UGC's Involvement

UGC's presence in the matter is called for two reasons. One, cooperation costs money; second, the operation will get a monitoring agency. To begin with, cooperative mechanism needs money for establishment, but are long it starts yielding dividends in the form of savings accruing on account of elimination of duplication. Lest the cooperative mechanism becomes a victim of lethargy, callousness and indifference of the institutions operating it, there is the need of a monitoring agency. The UGC can foot both the bills. By withholding funds which are being spent on duplicating the material and by doling them out for strengthening of collections, the UGC can play a constructive role.

10 SUMMING UP

Resource-sharing is an idea whose time has come. Collection development through resource-sharing will mean emphasis on *access* rather than on *possession*. Bommer and Chorba[5] rightly point out that at any given budget level, a library must assign resources to each of the three areas :

(i) acquisition of materials;
(ii) acquisition of bibliographical apparatus to permit accessing the local collections; and
(iii) acquisition of apparatus to access the holdings of others.

Resource-sharing at the national level is a distant dream for our country, but a start must be made at the local level. DUL, JNUL and ZHL in Delhi provide an excellent opportunity for their respective authorities to think on the lines of : (i) avoiding duplication of material; (ii) enriching the collections from the funds thus saved; and (iii) accessing each other's collections. The move is likely to encounter barriers—both structural and behavioral—but given the will and tenacity, the goal cannot be missed. In case the libraries still do not see the reason, the UGC may make cooperation as the cornerstone of its library policy for the future. We would not like the year 2000 see libraries bursting at the seams, yet their readers pining for their material. Let the year 1985 be observed by the three university libraries in Delhi as the year of start of library cooperation.

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COLLECTION DEVELOPMENT, CITATION ANALYSIS AND USER STUDIES : A CASE STUDY OF PERIODICAL SUBSCRIPTIONS IN ECONOMICS

GIRJA KUMAR

1 INTRODUCTION

Collection development in respect of periodical publications is assuming respectability as a subject of study among librarians, information scientists and other academics. Not so in India so much. There is need for extensive studies to be carried out in this country, because, besides other valid reasons, a significant proportion of budget of libraries is not only being eaten away by periodicals subscription lists, it is also badly upsetting the balances in collection development, so much, so that many libraries have practically stopped ordering other categories of documents.

There is need for systematic user studies to be carried out in this matter. The present paper is being presented with the hope that a valid case can be made for relating collection development with cost analysis, citation analysis and user studies. In other words, an attempt is being made to employ the technique of citation analysis as a study of user studies in respect of collection development.

2 A POLICY FRAMEWORK

The present study based on quantitative analysis is confined to the availability of foreign periodicals in the field of economics in English language in six major institutions conducting teaching and research in the discipline of economics.* In a manner of speaking, these six prestigious insti-

*The present study is based on the following project report: Girja Kumar and Jayaswal, P K. *Information needs of economists : A study of availability, cost escalation and utilization of foreign journals in economics in India.* Jawaharlal Nehru University Library, New Delhi, 2 pts, 46 + A — 28, B—5, C—2, 1982. Mimeo. Copies of the report can be obtained by writing to the authors.

tutions constitute practically the whole universe of economics, the queen among the social science disciplines, in the country. The institutions being subjected to microscopic examination are as follows:

1 Ratan Tata Library, Delhi School of Economics, University of Delhi, Delhi;
2 Institute of Economic Growth Library, Delhi;
3 Jawaharlal Nehru University Library, New Delhi;
4 Centre for Development Studies Library, Trivandrum;
5 Gokhale Institute of Politics and Economics Library, Poona University, Pune; and
6 Institute for Social and Economic Change, Bangalore.

Except for the Jawaharlal Nehru University, the remaining five institutions are mainly confined to the field of economics.

Before subjecting the collection development policy of six major institutions in India to microscopic analysis, it may be appropriate to place the data in the larger context.

Basic parameters can thus be established in terms of the availability of economic periodicals on world-wide basis and their effective utilization by all categories of users. *Ulrich's international periodical directory* (1979-80) contains a list of 7,916 periodicals in economics published on world-wide basis. Since a total of 17,515 social science periodicals are listed in *Ulrich's*, periodical publications in economics constitute the significant 45.5 percent of the total.

Since *Ulrich's* listing is of indiscriminate nature, with no consideration of qualitative assessment, *International bibliography of economics*, compiled by the International Committee for Social Science Information and Documentation, Paris, constitutes a more valid parameter for qualitative value judgement. The annual volume for 1977 lists 1,870 periodicals, of which 876 (46.8 percent) are in the English language. English language being the main vehicle of communication for teaching, research and scholarship, by comparison, the list of periodicals included in *International bibliography of economics* should form a valid basis for effective utilization of periodicals in India.

The *Union list of social science periodicals in Delhi Libraries* (1982), brought out by the Social Science Documentation Centre and comprehending the current subscription list of 92 libraries, lists 5,174 periodicals, contrasted with 17,515 periodicals listed in *Ulrich's*. The libraries in metropolitan area of Delhi have roughly 30 percent coverage of *Ulrich's*. The Delhi union catalogue lists 1,510 periodicals in economics. Those constitute 29.2 percent of the total. This percentage is to be compared with *Ulrich's* 45.5 percent coverage in the field of economics.

Possibly, the coverage of periodicals in the discipline of economics in

Journal of Economic Literature (JEL) and *Social Science Citation Index* (SSCI) is more valid for assessing effective utilization of periodical literature for academic research. While the number of periodicals in economics covered by SSCI (1980) comes to 307, JEL (1980) comprehends about 400 periodicals. It may however be noted that the total of titles covered by SSCI is further reduced to 230, when we take into consideration the principle of "impact factor."[1] There is a steep fall from the garaguntan figure of 7,916 periodicals listed in *Ulrich's* to the manageable figure of 230 periodicals as listed in SSCI, on account of the "impact factor".

There is thus a world of difference between the ideal of collection development of comprehending indiscriminately all that is available in a given discipline and the selective policy of collection development based on user studies. One technique for arrival at the ideal in terms of cost effectiveness is citation analysis, a methodology that we propose to apply in the present context.

Before proceeding further, the quantitative data compiled so far may be presented in the form of a table :

Comparative Data about Economics Periodicals

Source	*Year of coverage*	*Number of periodicals covered*	*Percent of the total*
Ulrich's	1979-80	7,916*	45.5
International Bibliography of Economics	1977	876**	
Union List (Delhi)	1982	1,510*	29.2
JEL	1980	400	
SSCI	1980	307***	

*All countries including India.
**English language only.
***Further reduced to 230 titles only on account of "impact factor."[1]

Of the six institutions subject to close scrutiny, three of those are concentrated in the metropolis of Delhi, two of them are located in southern parts of the country and the oldest of them in Western India, located

1 Eugene Garfield has defined the term "impact factor" as

$$\frac{\text{Number of times a Journal is cited in a given period}}{\text{Number of articles produced in the same period}}$$

ideally in the Brahmanic city of Pune. The following table provides a bird's eye-view of the availability of social science periodicals received in the field of economics by them :

Table 1 : Analysis of Subscription Lists

Name of the Institution	*Number of periodicals*			*Number of periodicals in other social science disciplines*	*Total number of periodicals*
	Foreign	*Indian*	*Total*		
1. Delhi School of Economic (DLS)	416	187	603 (52.0)	556 (48.0)	1,159 (100.0)
2. Institute of Economic Growth (IEG)	229	110	339 (49.0)	353 (51.0)	692 (100.0)
3. Jawaharlal Nehru University (JNU)	136	27	163 (17.2)	782 (82.8)	945 (100.0)
4. Centre for Development Studies (CDS)	153	32	185 (54.0)	157 (46.0)	342 (100.0)
5. Gokhale Institute of Politics and Economics (GIPE)	350	63	413 (56.7)	315 (43.3)	728 (100.0)
6. Institute for Social and Economic Change (ISEC)	136	76	212 (45.9)	250 (54.1)	462 (100.0)

Note. The figures in the above table also include periodicals received by gift and exchange by all other libraries except the Jawaharlal Nehru University Library.

*Figures in paranthesis indicate percentage.

The following interesting conclusions may be drawn on the basis of the study of two tables given above and other available data both individually and by comparing them :

1 Among the six institutions. Jawaharlal Nehru University has the

lowest percentage of 17.2 percent for periodicals in the field of economics;

2 there is considerable duplication of subscription lists among the six libraries. (For instance, Institute of Economic Growth Library, located in the neighbourhood of Delhi School of Economics Library, duplicates its 28 percent of subscription list with the neighbouring library);

3 there are considerable gaps in current subscription lists, so much so that of 406 titles listed in SSCI and JEL, while 204 titles are available, 202 of them are not to be found in the six libraries;

4 of 204 titles available in six institutions, only 88 periodicals are to be found in 230 periodicals ranked by "impact factor", thus indicating major gaps in national holdings;

5 the list of periodical subscriptions has been stationery for all practical purposes, by missing out on new periodicals and new interdisciplinary areas like business economics, environment, law, management, energy and policy sciences; and

6 neither there is perspective planning within the individual institutions, nor there is any rational perspective for maximizing the effective utilization through resource sharing.

3 COSTING OF FOREIGN PERIODICALS

A major consideration in designing national collection development is bound to be the galloping prices of periodical publications. Cost factor thus needs to be studied in great detail. For that purpose, it is proposed to take the sample of 204 periodicals (listed in JEL and SSCI, both of 1980) available in six libraries for depth analysis of available and cost of foreign periodicals in economics in six academic institutions, along with the extent of their utilization. This data is absolutely essential for examining cost effectiveness of the system. The tabular statement in six parts (Part A—Part F) of Table 2 provides a synoptic view of the cost situation in its many-splendoured dimensions :

(*a*) Total and average cost of periodicals in economics during 1980 (Part A);

(*b*) institution-wise break up of journals in terms of total and average cost during 1980 (Part B);

(*c*) analysis of the items in respect of number of subscriptions offered by the respective institutions for ascertaining the expenditure on duplicated effort (Part C);

(*d*) comparision of 1975 and 1980 prices in respect of total and average costs (Part D);

(e) price rise between 1975 and 1980, especially in the United States, United Kingdom and the Netherlands (Part E); and
(f) price rise between 1975 and 1980 of 88 ranked periodicals (Part F).

The tabular statement yields the following valuable data.

Table 2 : Availability and Cost of Foreign Journals in Economics in Six Academic Institutions in India

Part A

(*Cost in US Dollar*)

Number of journals	*Total cost in 1980* (in rupees)	*Average Cost*
172	8,497.31	49.40

Part B : Institution-Wise Break up of Journals

(*Cost in U S Dollar*)

S No	*Name of the Institution*	*Number of Journals*	*Total cost in 1980*	*Average Cost*
1	Delhi School of Economics (Delhi)	123	5,889.15	47.38
2	Institute of Economic Growth (Delhi)	68	3,031.15	44.59
3	Jawaharlal Nehru University (Delhi)	94	4,520.97	48.10
4	Centre for Development Studies (Trivandrum)	79	3,941.74	49.97
5	Gokhale Institute of Politics and Economics (Poona)	90	3,510.41	39.00
6	Institute for Social and Economic Change (Bangalore)	92	4,373.49	47.54
	TOTAL	546	$24,234.72	

Table 2 (*contd. on page* 432)

Table 2 (*contd. from page* 422)

Part C : Break up of Journals According to the Number of Institutions Subscribing to the Same Title

(*Cost in U S Dollar*)

Number of individual titles	*Number of Institutions subscribing to the same title*	*Cost of individual titles*	*Cost of total subscriptions*
26	6	1,006.14	6,036.84
24	5	1,152.07	5,760.35
23	4	976.63	3,906.52
26	3	1,522.27	4,566.81
32	2	1,710.99	3,421.98
41	1	2,129.21	2,129.21
TOTAL 172		8,297.31	25,821.71

Part D : Increase in Prices

(*Cost in U S Dollar*)

Number of titles in the sample	*Total cost in 1975*	*Average cost in 1975*	*Total cost in 1980*	*Average cost in 1980*	*Percent increase*
147	3,481.42	23.68	7,241.68	49.26	108.00

Part E : Increase in Prices (Country-wise)

(*Cost in U. S. Dollar*)

Country	*Number of titles in the sample*	*Total cost in 1975*	*Average cost in 1975*	*Total cost in 1980*	*Average cost in 1980*	*Percent increase*
USA and Canada	69	1,566.80	22.71	2,952.52	42.79	88.00
Great Britain	38	1,019.72	26.83	2,340.78	61.60	130.00
The Netherlands	9	310.65	34.51	881.81	97.98	184.00
Other countries	31	584.35	18.85	1,066.37	34.40	82.00
TOTAL	147	3,481.42	23.68	7,241.68	49.26	108.00

Table 2 (*contd. on page* 424)

Table 2 (*contd. from page* 423)

Part F Increase in Prices in Ranked Journals (Category-wise)

(*Cost in U. S. Dollar*)

Category	*Number of titles*	*Total cost in 1975*	*Average cost in 1975*	*Total cost in 1980*	*Average cost in 1980*	*Percent increase*
Non-Specific area	46	1,139.04	24.76	1,520.12	54.78	121.2
Specific area	42	832.55	19.82	1,655.33	39.41	98.8
TOTAL	88	1,971.59	22.40	4,175.45	47.45	112.0

It is possible to draw the following conclusions on the basis of the above data :

1 The average cost of foreign periodicals hase scalated from $23.68 to $49.40 per title, thus indicating a jump of 108% in prices within the short period of five years, that is, from 1975 to 1980;
2 By cumulating 172 titles (Part C) by the number of subscriptions for individual periodicals by six libraries (which works out to 614 subscriptions), it is possible to find out the exact extent of multiple subscriptions for purposes of avoiding unnecessary duplication; and
3 While the average cost of American periodicals has risen by 88 percent in five years, it has escalated to 130 percent and 184 percent for British and European periodicals.

4 USER STUDIES

Eventually user satisfaction is the highest objective of all collection development. Cost effectiveness is the ultimate barometer of user satisfaction. It is measured through user studies. There are several techniques for conducting user studies, some of which are in the state of development. There are no universally accepted methodologies for measuring cost effectiveness, for purposes of assuring user effectiveness. Citation analysis is one of the methodologies for measuring cost effectiveness. Its effectiveness has been equally disputed and defended. It has been adopted as the barometer in the context of the present user study. It seems to have yielded satisfactory results, which are proposed to be presented in the following paragraph.

As it may be recalled, Delhi School of Economics Library is one of

the six institutions included in the present day. It has the largest collection of foreign periodical literature in economics, and its present organization has the largest number of scholars enrolled for doctoral research. It was decided to correlate collection development in respect of foreign periodical literature with its effective utilization as seen through the citations to periodical publications to be found in the doctoral dissertations approved by the Delhi School of Economics. Citations in 80 doctoral dissertations were made the basis of the study. This study would not have been possible for the data readily made available by Mr A L Kapoor of Delhi University Library System. The study was restricted to citations to 204 foreign periodical publications, to which a detailed reference has been made in earlier paragraphs.

The total number of citations referred to in 80 Ph D dissertations from 70 periodicals submitted to the Delhi School of Economics came to 1,823. It works out to the low average of 22.7 citations. Since only 79 foreign periodicals have been cited in the totality of dissertations submitted to a prestigious research institution, it logically follows that the majority of periodicals that is 123, to be exact, of the sample, were cited zero times. The following table gives a bird's eye-view of the exact situation :

Frequency of Citations	*Number of periodicals*
0	123
1	23
2-9	21
10-29	21
30-49	4
50-99	5
100-199	3
200 and above	2
TOTAL	202

Note The total number of the sample works out to 202 and not 204, because *Journal of Royal Statistical Society* (Series A and B) has been listed at thrice serial numbers in the table.

That 123 periodicals have not been cited a single time in doctoral research conducted at a prestigious institution is not surprising. Similar is the situation with regard to the faculty members of Indian universities. In another survey of the writings of Indian academics as viewed through

the sample of 261 periodical articles contributed by them to three prestigious Indian economic journals (including *Artha Vijnana* and *Indian Economic Review*), it was discovered that at least 100 periodicals with zero citations were common to students of doctoral research and Indian academics supervising and conducting research simultaneously.

Yatha raja, tatha praja is the most appropriate saying in this context. The citation studies have conclusively established that the range of reading in Indian universities is confined to a narrow framework. The wide-ranging collection development may be justified only on grounds of the needs of the posterity.

Obviously, the scholarship in economics is confined within traditional narrow framework of subject that are considered safe and could have perhaps given satisfaction to the generation of our grand-fathers. Research is essentially based on standard periodicals emanating from established institutions from the United States and United Kingdom. There are hardly any citations to periodicals published in Korea, Japan, the Phillippines, Australia, Greece, West Germany, France and Eastern Europe. Similarly periodical literature in areas like accounting, banking, business economics, industrial relations, taxation, labour, transportation, regional economics and environmental economics seems to be a taboo.

The number of periodicals cited more than 30 times in 80 doctoral dissertations is no more than 14. The twenty highest ranking periodicals to be found on the basis of citations in 80 Ph D dissertations and Social Science Citation Index (SSCI) are to be found in the table given below:

Table 3 : 20 Highest-Ranking Foreign Periodicals*

Ph D dissertations	*SSCI*
Econometrica (USA) (6)	Brookings Papers on Economic Activity (USA) (5)
American Economic Review (USA) (6)	Journal of Economic Literature (USA) (6)
Journal of Political Economy (USA) (6)	Journal of Political Economy (USA) (6)
Economic Journal (Gt Britain) (6)	Journal of Marketing Research (USA) (1)
American Journal of Agricultural Economics (USA) (6)	American Economic Review (USA) (6)

Table 3 (*contd. on page* 427)

Table 3 (*contd. from page* 426)

Ph D dissertations	*SSCI*
Review of Economics and Statistics (Netherlands) (6)	Econometrica (USA) (6)
Journal of the American Statistical Society (USA) (5)	Industrial and Labour Relations Review (USA) (3)
Review of Economic Studies (Gt Britain) (6)	Economic Journal (Gt Britain) (6)
Quarterly Journal of Economics (USA) (6)	Journal of Finance (USA) (4)
Economist (Gt Britain) (5)	Journal of Monetary Economics (Netherlands) (5)
Oxford Economic Papers (Gt Britain) (6)	Economist (Gt Britain) (6)
Journal of Royal Statistical Association (USA) (6)	Review of Economic Studies (Gt (Britain) (6)
Journal of Marketing Research (USA) (1)	Review of Economics and Statistics (Netherlands) (6)
International Economic Review (USA) (5)	Harvard Business Review (USA) (5)
International Monetary Fund Staff Papers (USA) (6)	Journal of Public Economics (USA) (5)
Journal of Development Studies (Gt Britain) (4)	Monthly Labour Review (USA) (2)
Journal of Economic Theory (USA) (4)	Journal of Business (USA) (2)
Economic Record (Australia) (5)	Cambridge Journal of Economics (Gt Britain) (6)
Kyklos (Switzerland) (5)	Journal of law and Economics (USA) (3)
Economic Development and Cultural Change (USA) (6)	Journal of International Economics (USA) (5)

*Figures in paranthesis against the name of the journal of Table 3 indicate availability of the journal in the libraries under review.

It is thus possible to compare the trends in the discipline of economics in India and abroad at a glance.

The comparative table yields some very interesting results. The following seven journals of standing are common to both the lists:

1 *Econometrica*;
2 *American economic review*;
3 *Journal of political economy*;
4 *Economic journal*;
5 *Review of economics and statistics*;
6 *Review of economic studies*; and
7 *Journal of marketing research*

It is however surprising that the highest ranking periodicals in SSCI list, namely, *Brookings papers on economic activity* received zero citation in dissertations submitted to the Delhi School of Economics. Similarly 7 more periodicals out of the total of 20 as ranked in SSCI listing have recieved anywhere from 0 to 3 citations.

Citation analysis has yielded considerably useful data about the non-use of substantial proportion of periodical publications in our libraries, which are turning to be 'mortuaries' of dead stock. Far from providing user satisfaction, collection development is proving to be disfunctional. It is a matter of great concern because of the heavy cost of periodical subscription in proportion to the total budget for collection development. Proportion of periodical subscriptions to the total cost of collection development amounts anywhere from 50 to 90 percent. There is need for judicial pruning of subscription lists, their updating by adding new periodicals to the list, crossing into inter-disciplinary fields and, above all, attaining collection development policies and programs of user education for maximizing user satisfaction. This is the ultimate in attaining the foremost objective for which the discipline of library science came into being.

5 AREAS FOR FURTHER RESEARCH

A detailed study of information needs of economists may be based on the following considerations:

1 Weightage to be given to considerations like (*a*) subscription price, (*b*) availability of a periodical in more than one library, (*c*) usage and (*d*) curriculum-relatedness besides citation studies for the purpose of collection development;
2 development of model criterion for deselection, or cancellation of periodical subscriptions, on local, regional and national basis;

3 pattern of use of literature by various categories like under-graduate, post-graduate and research students and policy makers;
4 pattern of use of literature by economists in different specialized areas such as agriculture, planning and development etc;
5 comprehensive study of citation data contained in monographs, periodical literature, report literature and dissertations published/ compiled in India;
6 analysis of information gathering habits of economists working at various levels in India;
7 comparative study of citations contained in the writings of Indian and foreign economists;
8 planning of SDI service based on user profiles on national basis; and
9 planning of a national information system in economics based on selected institutions of national importance.

COLLECTION DEVELOPMENT IN SPECIAL LIBRARIES

R S GANDHI

1 SPECIAL LIBRARIES

The term special libraries is generally used to denote libraries specialising in a certain subject or group of subjects. As a generic term it has been used to include different kinds of libraries, such as those of industrial and commercial organisations, libraries of learned societies and government agencies and departments. The types of 'special libraries' are too numerous to permit mention of each, e g St Paul's Cathedral Library (specialising in religion), Library of the Victoria and Albert Museum (fine arts), Library of Bhabha Atomic Research Centre (nuclear physics), Library of Indian Banks' Association (economics and banking) etc.

In fact special libraries grew up as a result of scientific and technological advances for satisfying the information needs and reference and research requirement sof a specific clientele often limited to members of commercial, industrial, cultural organisations and government departments and agencies. The purpose of industrial libraries for example is to assist in the information required by the management, production, research personnel of industrial undertaking in their efforts to compete successfully with their rivals.

As a rule, this type of library is often concerned with 'microthought' that is supplying very detailed and highly specialised pieces of information contained in periodicals, government and technical reports, cuttings, illustrations and even unpublished material for specific anticipated needs, although books also form part of their resources.

An important characteristic of the typical 'special library' is an arrangement and classification of material keyed to the interest of the library's specialised clientele. A book on trees, for example which has different significances for a botanist and for a furniture manufacturer

would be dealt in one way in botanical library and in another way in a library maintained by a company that manufactures furniture.

What are the aims and objectives of special libraries? The chief aim of a special library can be expressed as "to save the parent organisation both time and money." The general objectives can be summarised as follows :

1 The production and distribution of bulletins containing information relevant to the product, etc of the company.
2 To circulate the original materials to key staff according to their subject interest.
3 To provide base for research.
4 To provide staff to conduct literature searches on behalf of management.

The modern library service calls upon a wide range of materials with which to provide its service to users. The acquisition of these materials is a skillful job demanding the sort of dedication that a housewife brings to the running of her home. In spite of the fact that books are controlled as far as their price is concerned and cannot be sold to the general public at less than the cover price imposed by the publisher under certain terms, there are many ways that librarians can obtain reductions in prices both for books and for the many other materials that are purchased. There are various techniques used by librarians to stock their libraries. Almost all libraries specially academic libraries apply to the Publishers' Association for library licence. In its application the library authority will list the names of designated suppliers. The Publishers' Association will then contact these suppliers and, provided their agreement is obtained will issue a licence which will allow the suppliers to offer a discount of 10 percent off net books. There will still be some books, imported or non-netbooks on which the full cover price may be charged but these form a small proportion of the purchases of most libraries. This discount is not available to industrial and commercial libraries open to the general public. Books, while forming an important part of a library's materials, are not the whole picture and increasingly librariansa re dealing with organisations which are not on their library licence in order to obtain audio-visual materials and in some cases are dealing with galleries for the purchase of photographs and works of art. It is unusual in these days to find even the smallest library dealing with a single supplier for all its library requirements. Consequently, the skill of shopping around assessing the cost effectiveness of a supplier's goods and services is important for the librarian to develop.

The selection of material for addition to the stock of a library should reflect the needs of its users. It is however only too easy for librarians or information officers to pursue an uneven purchasing policy in which subjects

in which they are personally interested are given precedence over the needs of the users. Obviously the conscientious librarian is even on her guard and would seek to reduce this to the absolute minimum.

As guide to the selection of materials, librarians have available to them major sources of information.

1 Many of them are qualified in particular subject areas and are therefore aware of the literature of specific subjects.

2 All Librarians make use of printed bibliographic areas.

3 Most librarians take the opportunity to visit book shops, museums and art galleries where they can actually browse along the shelves and make selections in that way.

4 Publisher's catalogues and book promotion literature like British Book News, Times Literary Supplement etc are the tools used by librarians in selecting books and periodicals.

5 Accession lists of sister libraries are also important tools for selection of books, e g our Indian Banks' Association Library refers to accession list of National Institute of Bank Management Library or Industrial Credit and Investment Corporation of India Library etc.

6 Special libraries like our library are members of certain institutions and associations e g Bank Marketing Association, Bank Administration Institute, Institute of Foreign Trade, American Bankers Association in which case we always get list of their latest publications and as a member we also get discount from them for our purchase. These are the exclusive publications on special subjects like banking and are available in our library which no other library gets. So far as their conference papers and other materials are concerned we get intimation which is an additional benefit to special libraries.

There is a wide range of printed bibliographies which are purchased by most libraries e g BNB which gives a complete classified cat-entry for each item and is published weekly with monthly, quarterly, annual and five yearly cumulations and a cumulative book list which is an alphabetical/author/subject/title listing.

The cumulative book list is published quarterly and cumulated annually and there is a five year cumulation. British Books in Print lists all the books printed in the U K by author/title/subject and in fiche version it also incorporates books to be published in the near future. American bibliographies such as Cumulative Book Index are used by larger libraries for selection purpose. There is also an international microform bibliography available called Books in English which combines materials published in English Language in U S and U K.

Another form of bibliographic reference used by librarians is the publishers' lists and announcement cards which are circulated free of charge to

libraries and although these need to be treated with some caution as a tool for selecting library materials they are nevertheless useful. Obviously, the librarian must remember that any document produced by a publisher is a form of advertising designed to induce him to purchase and he must exercise sound professional judgement to ensure that the item is in fact described accurately before purchase it. The traditional bound catalogue sent out by publishers is being replaced or in most cases supplemented by the production of cards and leaflets which rain on to the librarian's desk. Often looking like pseudo catalogue cards, these purport to offer the librarian information concerning not only the content of the book but the intellectual level at which it is aimed and the type of user for whom it is intended.

For most librarians one of the 'perks' of the job is the opportunity to visit major book shops and to browse among the recent publications so that they can exercise their own professional judgement on the actual item rather than rely upon secondhand information. Increasingly, this is an expensive way of selecting books but still one of the most effective.

Special librarians are making increasing use of independent reviews of books and other materials contained in newspapers such as Times of India etc.

Ordering when the librarians have exercised their professional judgement, in many cases in consultation with non-librarian colleagues, the materials that have been selected need to be ordered from the suppliers. To simplify this procedure most libraries have developed certain standard forms. These forms can be completed and used to obtain materials from a whole range of different suppliers.

2 OBJECTIVES OF AN ACQUISITION SELECTION

Knowledge is power and libraries are the reservoirs of this power. This power should never be kept unused rather it is meant to enlighten the personality of the individual. Libraries are temples of learning, the doors of which are open to all without any distinction of caste, creed, sex etc.

The library implies the close collaboration of the trio, i e the books, the readers and the staff. In fact, the books and periodicals are basic materials with which the readers are to be fed. They have a pivotal position in the library world. These libraries are to be fed with latest books and other materials. The financial stringency is one of the factors which is responsible for forcing librarian to think twice before acquiring a certain book and periodical. They have to cater to different needs of their special kinds of readers, while selecting books for a particular library especially for special library and the means through which this purpose can be fulfilled properly. Efforts should be to provide "best books for the largest numbers

at the least cost."

The acquisition of books and periodicals is a prerequisite for a library. This work is so important that it should be organised in such a manner that the reading material of maximum utility is acquired without any delay and at a minimum cost. This can be ensured only if suitable section is organised and latest acquisition techniques are used. The first and the foremost essential of an acquisition program is to decide the general objectives of an acquisition programme of a library.

1 A library should acquire and provide all the relevant reading materials to its clientele so that the basic functions of the library are fulfilled. For example, special libraries like ours, i e banks library procures all the reading materials needed by our students, staff and research scholars for their research projects. This includes books, journals, paper clippings, conference proceedings etc from India and abroad.
2 A library should acquire all other books on related topics. Special libraries must procure books and other materials e g banking library apart from having books on banking should also keep books on related subjects like finance, economics, accounting, etc.
3 Books selection for special library should aim at meeting reading needs of all its users.
4 The book collection should be conceived as a living and changing organism subject to the inevitable processes of obsolescence, wear and tear and loss.
5 Procedure of book selection should be carefully planned and organised in every special library. Book selection should be an objective task, based on a wide acquaintance with literature and affairs, accurate knowledge of people's (readers) need, the existing book stock and available books in print.
6 Evaluation of the book stock of a special library cannot be dissociated from the effectiveness of its services, the qualifications and energy of its staff, the aggressiveness of the public relations programme.

In many cases the materials may be acquired in suitable copy (facsimile microfilm, photostat or otherwise reprographed copy), if originals are not available.

The selection of materials, both new and old, should be planned and best calculated to strengthen the resources of the library with reference to its programmes and clientele.

3 FUNCTIONS OF AN ACQUISITION SECTION

The librarian's job is to select, acquire, process and make available

books and other kindred materials to the existing and prospective clientele. In fact, acquisition of the reading material is one of the important functions that a librarian is enjoined to perform. The following are the functions of an acquisition librarian:

1 To develop procedures to meet the needs of the library.
2 To handle personally difficult or important correspondence or problems relating to the order of books, serials, documents, periodicals, maps and other materials.
3 To recommend the faculty concerning book selection.
4 To watch carefully auction, rare books and secondhand dealers catalogues for opportunities to purchase items on desiderata lists.
5 To have materials filmed or otherwise reproduced when they are out of print or otherwise unavailable in original.
6 To read and appraise books and other material and make recommendations for acquisition.
7 To supervise the handling of all gifts and exchanges coming into the library.
8 Maintenance of order files, 'in-process' files and other records essential to acquisition work.
9 Maintenance and use of bibliographic aids peculiar to acquisition work (e g dealers' catalogues, trade lists, etc.)
10 Making up, despatching and filing of orders for books.
11 Receipt, handling and inspection of incoming shipments.
12 Packing and shipment of returns and exchange materials.
13 Informing individuals recommending the purchase of books about the status of such recommendations.
14 Ordering and checking the periodicals.
15 Following up on items not promptly received.

Though acquisition section of a library has a pivotal position in the organisation yet 'effective acquisitional organisation' requires not only that the physical surroundings are planned to speed the flow of work, but also that the principles of administration relating to centralisation of homogeneous activities, direction supervision and control be applied to its functioning.

4 FACTORS IN THE ACQUISITION AND SELECTION OF LIBRARY MATERIALS

In the acquisition of library material, information and suggestions about the sources of supply contributed by all who aid book selection are gathered together and co-ordinated so that purchasing, receiving and recording may be carried on economically and efficiently.

Skill in the use of bibliographical aids of all kinds, and familiarity with the market (for new and secondhand material) and resources of dealers are important factors in acquisition and in selection. Acquisition of rare books, and materials, however, requires highly specialised knowledge. The acquisition of foreign publications and government documents also requires specialised knowledge. In special libraries the acquisition of technical reports, conference proceedings and other fugitive material, not obtainable through normal trade channels is a great problem.

The acquisition by purchase is supplemented by exchanges of material with other libraries and institutions. The operation of exchanges raises special problems for libraries and institutions which have publications of their own available for exchange. Official publications, press publications (monographs, serials and periodicals), dissertations, library publications (annual report etc) and other items have been used for exchange purposes. Duplicates also represent a source of materials useful for exchange.

Gifts also form an important supply of materials. Many big libraries, particularly university libraries and national libraries have grown up out of gifts of private collections. Of course, gifts frequently raised administrative problems involving relations with donors, procedures of acceptance and publicity, and technical decisions. As such, the librarian should keep close watch on the gift programme of the library. The future cost of maintenance of the gift, filling in the lacunae and the cost of making the sets of serials and periodicals up-to-date are important points to consider in accepting gifts.

4.1 Operations of the Gift Unit

The major activities of the gift unit (of a library) are solicitation, receipt and acknowledgement of solicited gifts, handling of unsolicited gifts, organizing of materials, and preparing of proper records. Since the work is linked in most cases with exchanges, the unit will most likely be responsible for distribution of materials sent as gifts, especially duplicates.

4.2 Records

The gift record form usually includes such information as the donor's name, address columns for types of materials and dates they were received, columns for the date of acknowledgement. The card record is usually filed according to entry under the donor's name, either an individual or corporate body.

Along with acquisition the disposal of unwanted material is necessary. The disposal of unwanted material in an economic manner has become more important with the growth of inter-library co-operation in stock specialisation and the general acceptance of responsibility for preserving collections of little or lesser-used materials.

5 DIFFICULTIES FACED

After the procurement of books is over the maintenance of these collection of books is the major problem faced by librarians.

There are certain difficulties which special libraries were facing in order to obtain the books and periodicals but gradually librarians are trying to overcome the same by different ways and means.

As far as periodicals are concerned generally subscription is done through agents. It is these agents who collect subscription amount from librarians and in turn do not pay to the publishers thus stoping the inflow of periodicals to the library. When librarians write to publishers for the non-receipt of priodicals they get the answer of non-payment. This is very common for foreign periodicals. Recently, librarians have started subscribing to periodicals directly. They fill up A-2 form and ask for exchange, pay the amount to the publishers abroad and get their periodicals in time. In case of non-receipt of any magazine one letter is enough to get a copy from publisher promptly. This problem of missing issues, non-receipt etc is solved and inflow of periodicals is uninterrupted. As far as procurement of books is concerned we get books of our subject on approval from booksellers and publishers. We go personally and select books of our subject from various bookshops as well as from book exhibitions. This is a convenient and faster way of collecting materials in special library rather than asking for books from abroad which may take months. With the passage of time librarians have learned to overcome the difficulties of procurement of special materials for their library.

Lastly, I can conclude by saying that collection development in special library is a very important task which should not be neglected.

CURRICULUM REQUIREMENT, COLLECTION DEVELOPMENT AND USER SATISFACTION IN ACADEMIC LIBRARIES

GIRJA KUMAR
P K JAYASWAL

1 COLLECTION DEVELOPMENT ENVIRONMENT

Collection development environment in academic institutions has qualitatively reformed beyond recognition. Comprehensiveness of collections was the ideal of all academic libraries. Stress was laid on balanced growth in respect of periodical literature, research publications and curriculum requirement. Fifty per cent of collection development budget was normally devoted to annual periodical subscriptions in academic library institutions, with the other two categories apportioning the remaining half. The balances have been completely disturbed.

The periodical subscription list is now considered a sacred cow. Deselection of periodical subscriptions is a taboo. With the escalation in the prices of serial publications and stationery budgets, the portion of the budget devoted to collection development in respect of research publications has the lowest priority. The allocation for curriculum requirement falls in between. In other words, curriculum requirement has low priority over research publications, which is, in turn, placed lower down in the scale than the budgetory allotment for periodical subscriptions.

2 CURRICULUM DEVELOPMENT

In actual fact and in terms of user satisfaction, curriculum requirement should have been placed the highest in the scale. Paradoxically enough, periodical subscriptions with the highest budgetory ratio (going up to 70 to 80 per cent in respect of many academic libraries), have the lowest user satisfaction as established through several user studies conducted in this country.

3 USER GROUPS

Students constitute the most potential and more numerous group of users in any university and college library. The curriculum requirement of the students should get first priority in the collection building of any academic library. Traditionally academic libraries laid stress upon building a separate collection of core reading materials to meet the curriculum requirements of students along with a comprehensive collection of general reading materials to support the research needs of other remaining group of users.

In recent decades changes in the educational patterns and programmes have been witnessed. This has happened due to the various factors. The most prominent factors are the rapid advancements in subject disciplines at the theoretical level, their inter-disciplinary nature and structural charges in the society brought out by different assimilating and conflicting ideologies. Therefore, the designers of the curriculum are in a compelling situation to make a serious attempt to reflect the latest trends of the society both at the macro and micro levels in the prescribed courses.

This has resulted in the introduction of numerous courses in a particular discipline at the M A level. Semester system have increasingly come to be introduced. Those have the advantage of combining both the intensity and comprehensiveness of the topics. Consequently, the system of evaluation has also been changed.

4 CHANGING ENVIRONMENT

More emphasis is being given to the presentation of term and seminar papers and the submission of dissertations rather than sole dependence on an annual examination at the end of the year for the purpose of evaluation. The result is frequent changes in the curriculum. The system of examinations have thus a direct bearing on the collection development policy of the library and its service aspects, more in terms specifically of its use patterns. All this goes to confirm that the environment has changed beyond recognition, at least in several progressive universities of India.

Based on the sample of data collected from Social Sciences Division, Jawaharlal Nehru University Library, the present study is an exploratory one in respect of the following aspects:

(*A*) To ascertain the number of courses in the social sciences for which the library is expected to meet the course requirements of MA and M Phil students; (Table 1).

(*B*) To ascertain the number of core readings in each course. For the purpose of the sample, only compulsory courses at MA level have been selected;

Table 1 : Curriculum Requirements of M A and M Phil Students in Social Sciences in Jawaharlal Nehru University

Name of the School/Centre	*Total number of courses available*	*Distribution of courses according to levels of programme*	
		M A	*M Phil*
Social Sciences (School of—)			
Historical Studies (Centre for—)	117	82	35
Social Systems (Centre for the Study of—)	63	29	34
Political Studies (Centre of—)	58	30	28
Regional Development (Centre for the Study of—)	68	34	34
Economic Studies and Planning (Centre for—)	36	36	*
Education Studies (Zakir Hussain Centre for—)	10	*	10
Social Medicine and Community Health (Centre for the Study of—)	9	*	9
International Studies (School of—)	159	49	110
TOTAL	520	260	260

*M A/M Phil level programme is not being offered in the centre concerned.

(*C*) In-depth analysis has been made for all the compulsory courses available at the Centre for Economic Studies and Planning in respect of the following aspects:

(i) Cost of each course in economics (in rupees);
(ii) average cost of books;
(iii) availability of books in compulsory and optional courses in terms of single copy;
(iv) number of out-of-print titles;
(v) percentage of paperbacks in respect of hard covers; and
(vi) analysis of core-books in terms of their year of publications.

(*D*) In changing circumstances, when the number of courses have increased due to diversified research interests, whether it is possible for the academic libraries to meet the course requirements of the students in terms of multiple copies with the limited resources available to them; and

(*E*) To examine the involvement of librarians as activist participants in the very process of profile designing and evaluation of course requirements on continuing basis.

5 CENTRE FOR ECONOMIC STUDIES AND PLANNING (JNU)

The above propositions may be illustrated with the reference to curriculum requirements of M A students of the Centre for Economic Studies and Planning, School of Social Sciences, Jawaharlal Nehru University. The teaching in the university is based on semester system and is heavily oriented in the direction of the library. The Centre for Economic Studies and Planning concentrated on the teaching of M A courses consisting of 4 semesters with 64 credits spread over two academic years.

The sixty-four credits assigned to course work have been split between two sets of compulsory and optional courses, the former covering 48 credits and the latter 16 credits. Each full course covers four credits. While there are 12 compulsory courses, there are 24 optional courses, of which the students are expected to select four optional courses. In order to encourage inter-disciplinary approach, students, if so desire may offer two optional courses, covering 16 credits in other centres of the University.

While there are a total of 148 books, 10 periodical articles and 10 items of report literature prescribed for all the 12 compulsory courses, the number of books, periodical articles and report literature in respect of optional courses are 277, 34 and 14 items respectively. These figures give some idea of the extent of possible dependence upon the resources of the library by the students and teachers for their course work.

Analysis of the Coverage of Reading Materials

Courses	*Books*	*Periodical articles*	*Report Literature*
Compulsory	148	10	10
Optional	277	34	14
TOTAL	425	44	24

6 SOCIAL SCIENCES

While the total number of courses conducted by Centre for Economic Studies and Planning is 36, the number of courses conducted by the School of Social Sciences, both for M A and M Phil courses, comes to the impressive figure of 361 courses. The School of International Studies, the other school of the University concerned with social science disciplines, conducts 159 M A and M Phil courses. It is thus to be seen that the social science (cum area studies) courses in the Jawaharlal Nehru University have proliferated to the somewhat unmanageable figure of 520 courses (Table 1).

Of all the centres of the School of Social Sciences, the Centre for Historical Studies offers the maximum number of courses 82 and prescribes the largest number of books (800) in compulsory courses. The number of courses and the prescribed books is maximum in the above-mentioned discipline. It offers courses in four streams of (*a*) Ancient history, (*b*) Medieval history, (*c*) Modern and Contemporary history and (*d*) Non-Indian (World) history. The average number of books in compulsory courses for four streams of the discipline of history ranges from the minimum of 22 to the maximum of 52 books.

In contrast, Centre for Economic Studies and Planning has prescribed 148 titles for its 12 compulsory courses out of the grand total of 36 courses. The average number of books prescribed for each in the Centre for Economic Studies and Planning works out to 12 books per course, a figure far below for the four history streams. So far the non-availability of course books in economics is concerned, the findings reveal that 8 percent of books in compulsory courses and 31 percent in optional courses are not available in the Library.

For purposes of contrast, it may be mentioned a grand total of 1993 books have been prescribed for 79 M A level compulsory courses in the School of Social Sciences and the School of International Studies, Jawaharlal Nehru University (Table 2). Obviously, the number of titles prescribed in compulsory courses for M A disciplines in the University is too much to be coped within the time limit of four semesters. How much does one read out of prescribed readings is a matter not only for the conscious of the students, but their capacity to do so, apart from their relevance to the courses. There is need for conducting user studies to find out the maximum capacity of students of Indian Universities to imbibe readings for their course work.

7 COSTING OF CURRICULUM READINGS

The costing of books prescribed for M A courses should be of much interest to all concerned, especially for making the necessary budgetary provisions. For that purpose, data has been collected for the cost of 113

Table 2 : Distribution of M A Level Courses According to their Nature and the Number of Core Books Recommended in Compulsory Courses

Name of the School/Centre	*Total number of courses*	*Nature of the courses and their distribution* (in parenthesis)	*Number of books in the compulsory courses*		*Average number of books in compulsory courses*
			A Size of the sample	*B Total No of books*	
(1)	(2)	(3)	(4)		(5)
Social Sciences (School of—)					
Historical Studies (Centre for—)	82	(i) Ancient history (23)	(i) Ancient (6)	195	32
		(ii) Medieval (17)	(ii) Medieval (6)	122	22
		(iii) Modern and contemporary (26)	(iii) Modern and contemporary (6)	315	52
		(iv) Non-Indian History (7)	(iv) Non-Indian History (4)	168	42
		(v)* Tool and language course (9)	—	—	—
Social Systems (Centre for the Study of—)	29	Compulsory (12) Optional (15)	13	399	31

Political Studies (Centre of—)	30	Compulsory (12). Optional (18)	10	214	21
Regional Development (Centre for the Study of—)	34	Compulsory (16); Optional (18)	12	221	18
Economic Studies and Planning (Centre for—)	36	Compulsory (12); Optional (24)			
International Studies (School of—)		Compulsory (10); Optional (7) and	12	148	12
	49	Area Studies (32)	10	210	21
TOTAL	260		79	1993	25

*To make the students familiar with historiography a compulsory course in historical method is being offered. The course contains 24 books. Courses in Indian languages are also prescribed so that students may be enable to use primary sources.

core books for 12 compulsory courses in M A economics. The details of 12 compulsory courses are given below :

Cost of Core Books in Compulsory Courses in Economics

S No	*Course title*	*Number of books*	*Sample selected for cost analysis*	*Total cost for single copy* (in Rs)
1	Theories of money, employment and output in a capitalist economy	15	14	2,815.82
2	Micro economic theory	15	13	2,513.45
3	Political economy of development	15	13	1,628.24
4	Classical theory of value and distribution	22	19	3,074.84
5	General equilibrium analysis	11	10	1,710.35
6	International trade investment and payments	15	10	2,109.81
7	Evolution of the Indian economy	9	5	1,087.50
8	Analysis of Indian planning	6	3	426.24
9	Indian economic problems	6	5	919.86
10	Problems of planning techniques	16	11	1,459.91
11	Problems of accumulation in capitalist economics	6	5	576.31
12	Introduction to statistical and econometric methods	6	5	996.80
	TOTAL	148	113	19319.13

8 SINGLE vs. MULTIPLE COPIES

The average cost of each title works out to Rs 172.50, with the total cost of 113 titles working out for single copies to Rs 19319.13. Considering the fact that multiple copies are required due to competing demands from the students, the cost when multiplied by five should raise the total cost from Rs 19319.13 to nearly Rs 100,000 for compulsory M A economics courses of the Jawaharlal Nehru University. Five copies per title have been suggested for a students body of forty-five at present on the rolls of the university studying for M A previous only. The cost should escalate precipiously for most other universities because of higher enrolment than in the Jawaharlal Nehru University.

In any case, compulsory courses constitute only one-third of the total courses. Compared to 12 compulsory courses, there are 24 optional courses in the Economics Centre. The total number of books prescribed for optional courses stands at 277. On the assumption that single titles in economics cost Rs 171.00, the total cost of 277 books in optional courses shall work out to Rs 47367.00 for single copies. The total budgetary allocation for multiple copies in compulsory courses and single copies for optional courses in the Centre for Economic Studies and Planning of Jawaharlāl Nehru University is thus estimated at Rs 147367.00.

9 ESCALATING PRICES

The average cost of books in economics for course requirement at Rs 171.00 per title is on the low side. There is a rationale for it, which is provided by the fact that out of the sample of 113 titles (still in print), 82 titles were brought out during or before 1975. The spurt in prices of books is a recent phenomenon. It has concided with the beginning of the oil crisis of 1973. Majority of titles prescribed for M A courses in economics in the Jawaharlal Nehru University pertain to the mid-seventies or before. Indeed five titles were published during the thirties and forties. 28 titles that is about 25 per cent of titles are at least dated by 25 years. The table at p 232 dates 113 titles by the respective periods of their publications.

In the years to come, most of the titles prescribed for courses shall be replaced by reprints or new editions. It shall also be necessary to replace certain titles by new ones and possibly overhaul the courses in the light of the latest developments in subject fields. This is bound to happen in the next five years. An indication of the scheme of things in terms of budgeting for collection development can be had on the basis of prices of new and forthcoming books in the field of economics.

The maximum number of titles prescribed in the curriculum of M A economics of the Jawaharlal Nehru University have been published by the

Analysis of Core Books According to their Year of Publications

Years covered	*Number of books*
Between 1930 and 1940—	5
Between 1941 and 1950—	5
Between 1951 and 1955—	5
Between 1956 and 1960—	13
Between 1961 and 1965—	6
Between 1966 and 1970—	25
Between 1971 and 1975—	23
Between 1976 and 1980—	28
1981 onwards	3
TOTAL	113

Cambridge University Press. A scrutiny of the recent catalogue of titles brought out by the same publishing house yields very interesting data. It lists 31 titles in the field of economics. The average cost of each title works out to £ 20.00, that is Rs 326.00 in terms of Indian currency. It supports our contention stated in the earlier paragraph, that the average price of books presently is much higher than the average price of Rs 171.00 presumed on the basis of published prices of prescribed books for M A courses in economics.

10 MECHANICS OF PRESCRIBING CURRICULUM READINGS

Unfortunately, curriculum readings are mechanically prescribed without consideration of the inhibiting factors. There are several negative features in the situation that tend to be overlooked by the faculty. There are few instances of faculty members attempting to find out about the availability of prescribed readings in the libraries of respective academic institutions. The availability of a unique copy on the shelves of the library may not adequately answer to the needs of potential users. In the Indian university system, a class composed of 50 to 100 students is a rule rather than an exception.

A single copy available on the shelves of the library may create more dissatisfaction than user satisfaction because of the competing demands on it. There is greater possibility of the document disappearing from the

shelves altogether. Multiple copies mean proportionately higher demands upon the budgetary resources of the library.

Another disturbing matter peculiar to the Indian university system is exclusive dependence upon the library for meeting curriculum requirements by the students. The practice of the students being obligated to possess personal copies of essential reading materials has disappeared altogether in this country.

The escalating prices of books is no doubt an inhibiting factor. It does not however justify in any manner the inexcusable tendency to such possession of personal books. As it is inconceivable for medical students to possess personal copies of prescribed readings, similarly M A students of Indian universities should be obligated to possess personal copies of their essential readings. Indeed, the same should be the pre-condition for admission to the courses. If necessary, such acquisitions by individual students need to be subsidized by the state as a part of the educational programme.

11 PAPERBACKS

Another department awaiting exhaustive exploration is the availability of paperbacks of readings for compulsory courses. The paperbacks cost anywhere from 100 per cent to 300 per cent less as compared to books in hard cover. A careful survey needs to be conducted about the availability of essential readings in paperbacks, so that the students can be encouraged to possess their personal copies. The analysis of courses for M A economics in the Jawaharlal Nehru University has yielded the interesting data that of 148 titles prescribed for compulsory courses, 113 titles are in print. While 79 titles are available in hardcover, 34 titles are available in paperback, in addition to 7 titles being available both in hard cover and paperback. It is encouraging to note that at least 30 per cent of titles prescribed for M A courses in economics are available in soft cover. Those should be within the reach of the students.

It is high time that bookshops are established on the premises of universities in India, so that the students are enabled to acquire paperback editions of their prescribed readings. Besides physical accessibility (an important factor in itself), another attractive proposition can be the large discounts that may be offered to the students. One may go further by suggesting that the titles suggested for readings for courses may be substituted, keeping in view the availability of paperback editions. The faculty and the librarians need to get together to survey the over-all situation to review the readings for all courses in the light of the above situation.

12 PRINCIPLE OF "ACCESS TO ALL"

Innovative techniques need to be adopted to tackle the situation in which

the students of Indian universities do not have access to all the reading materials for their courses. "Access for all" to reading materials should be adopted as the fundamental right of all students of every academic institutions in the country. One is reminded of Dr S R Ranganathan's famous second law "Every reader his book". There are however several prerequisites that must be met before introducing the innovations suited to conditions of a developing country like India.

While the first prerequisite is the involvement of librarians in the very processes of predesigning of course requirements, alongwith the faculty members and students, the second prerequisite is the employment of the latest techniques of information technology whereby documents to be requisitioned for course readings can be multiplied with the help of reprography in requisite quantity. There is no doubt in our mind that information technology shall prove to be a truly liberating agent for development countries. Copyright or no copyright, such a situation is bound to come to pass in the near future.

13 RIGHT TO ESSENTIAL READINGS

Ideally speaking, the objective should be not only for curriculum requirements to be met by libraries of academic institutions, but to make sure that every student enrolled in the institutions of learning in developing countries like India is enabled to possess a copy of essential readings for his courses as a matter of right. In case the readings are carefully predesigned (within a conceptual framework), it should be possible to implement such a scheme within the framework of funds made available to libraries for collection development. Part of the expense can be recovered from the students themselves. The cost of production of such readings may considerably come down, when latest printing devices are employed for reproduction of multiple copies. The validity of the above statement can be established on the basis of the experiment carried out in the Jawaharlal Nehru University Library.

14 JAWAHARLAL NEHRU UNIVERSITY EXPERIMENT

The non-availability of documents prescribed for readings is a common enough occurrence in the Indian University System. The non-availability of documents in adequate number of copies is a universal phenomenon. That libraries are not in a position to meet with the demands of a user group that constitutes the majority of their clientele has been established beyond any shadow of doubt. That the faculty, the students and the librarians have virtually no dialogue on either collection development policies or curriculum requirements for various courses has been a matter of concern for all concerned with maximizing returns from the educational

system. Above all, libraries as functioning systems should be in a position to pursue user satisfaction through collection development. It may be beneficial to recapitulate the results of the experiment conducted by the Jawaharlal Nehru University Library in collaboration with the Centre for the Study of Social Systems, School of Social Sciences of the same university. It is highly relevant for the purpose of user satisfaction of the faculty and students of the Centre for Economic Studies and Planning, whose curriculum requirements have formed the main theme of the present paper.

15 SOCIOLOGY COURSE

The predesigning of course requirements of the course on "Sociology of family life and kinship" was devised on the basis of conceptual analysis of needs of the students, so as to enable them to have mastery over it. While profile designing of the course is to be initiated by the librarians, the actual readings were to be suggested by the faculty members, with the students turning into active participants for the purpose of evaluating readings for their relevance.

The course was viewed as a string of concepts in a sequential order. Parallel to each concept, essential and secondary readings were suggested to supplement teaching in the class room. The course in question was thus viewed as a sequence of inter-related concepts. In other words, a classificatory system supplemented by readings was designed for the course. The readings consisted of chapters/sections and periodical articles and were arranged in a logical sequence (see Table 3).

Table 3 : Centre for the Study of Social Systems

M A Previous
Monsoon Semester, 1982-83

Course : SSM 705 : FAMILY LIFF AND KINSHIP IN INDIA

Teacher : Prof R K Jain and Prof T K Oommen

Notes :

(*A*) The course contents have been divided into four units :

Unit 1.	Kinship
1A.	Matrilineal kinship
1B.	Kinship organization in North and South Zone
Unit 2.	Marriage
Unit 3.	Family
Unit 4.	Joint-family

Table 3 (*contd. on* 236)

Table 3 (*contd. from p.* 235)

(*B*) Readings under each unit have been categorised into two parts : essential and supplementary (Part A).

(*C*) Key terms/Indexing terms/Related terms have been provided in order to familiarise the students with conceptualization of the course-contents and searching the references from the reference sources (Part B).

(*D*) Availability of the reading material in the Text Book Section has been shown by symbol such as one star (*) or two stars (**). Besides JNU Library, students should also make attempt to use the resources of other social science libraries in Delhi.

PART A : READING LISTS

UNIT—1 : KINSHIP

ESSENTIAL READINGS

Level A

** Barnes, John Arundel. Kinship. *In* Encyclopaedia Britanica, V. 10. P 477-485 (Text Book Reprint No 447).

** Eggan, Fred. Kinship. *In* International Encyclopaedia of the Social Sciences, V. 8. P 391-401 (Text Book Reprint No. 447).

* Graburn, Nelson. Readings in Kinship and Social Structure. Harper, New York. 1971 (Y, 2″x, L1).

** Majumdar, DN and Madan, T N. Introduction to Social Anthropology, Chapter 6, Bombay, Asia. 1967 (Y, 7; J6; K7) (Text Book Reprint No. 506).

Level B

** Barnes, J A. Three Systems in the Study of Kinship, Part 2. Tavistock, London. 1971 (Text Book Reprint No. 503).

* Dube, Leela. Sociology of kinship. *In* ICSSR, A Survey of Research in Sociology and Social Anthropology, Vol. 2, Chapter 5. Popular, Bombay. 1974 (Y. f. 44 L7″ t4 L2. 2).

** Fox, Robin. Kinship and Marriage. Penguin, England. 1967 (Y, 2 K7) (Text Book Reprint No. 446).

Table 3 (*contd. on p.* 237)

Table 3 (*contd. from p.* 236)

** Fortes, Mayer. Structure of unilineal descent group. *In* Jack Goody (ed.), Kinship. Chapter 17. Penguin, England. 1971 (Y, 2L 1) (Text Book Reprint No. 510).

** Freeman, J D. On the concept of kindred. *Journal of the Royal Anthropological Institute.* 91; 1961; 192-220 (Text Book Reprint No. 513.

** Goody, Jack. Descent groups. *In* International Encyclopaedia of the Social Sciences, V. 8; 401-408 (Text Book Reprint No. 447).

** Levi-Strauss, Claude. Elementary Structures of Kinship. Tavistock, London. 1969 (Y, 2 H9, K9, L0) (Text Book Reprint No. 448).

** _____.Principles of kinship. *In* Jack Goody (ed.), Kinship, Chapter 4. Penguin, England. 1971 (Y, 2 L1) (Text Book Reprint No. 512).

** Mair, Lucy. Introduction to Social Anthropology, Chapter 5. London, Oxford. 1965 (Y, 7 K51) (Text Book Reprint No. 504).

** Meyer, Fortes. Structure of unilineal descent groups. *American Anthropologist.* 55; 1953; 17-39 (Text Book Reprint No. 512).

** Needham, Rodney. *Ed.* Rethinking Kinship and Marriage, Chapter 1. Tavistock, London. 1971 (Y, 2 L11) (Text Book Reprint No. 511).

* Radcliffe-Brown, A D and Forde, Daryll. African systems of kinship and Marriage. Introduction; 1-86; Oxford, London; 1978. (Y, 2.6 "57 P 7 J0 : L0).

UNIT 1-A. MATRILINEAL KINSHIP

Essential Readings

* Dube, Leela. Sociology of Kinship. Popular, Bombay; 1974, (Y, 2.44 "a 'N69 L4).

** Gough, Kathleen. Nayar : Central Kerala and North Kerala; Moppilla : North Kerala. *In* Schneider and Gough, Matrilineal Kinship. University of Berkeley. 1962 (TBR No. 514).

* Schneider, D M and Gough, Kathleen, *Ed.* Matrilineal Kinship. Introduction; University of California, Berkeley; 1962 (Y. 2" xy7.K1; K2).

Table 3 (*contd. on p.* 238)

Table 3 (*contd. from p.* 237)

UNIT 1-B : KINSHIP ORGANISATION

Essential Readings

** Dumont, L. Kinship and alliance among the Pramalai Kallar. *Eastern Anthropologist.* 4; 1951; 3-26 (TBR No. 482).

** Dumont, Marriage alliance in south-east India and Ceylon. *Contributions to Indian Sociology.* 5; 1961; 74-95 (TBR No. 492 and 493).

* Karve, Irawati. Kinship Organization in India. Chapters 3 and 5; Asia, Bombay; 1968 (Y, 2.44 J3, K8).

* Mayer, Adrain C. Caste and Kinship in Central India. Routledge and Kegan Paul; 1960 (Y, 592.44-9D-02 K0; L0) (TBR No. 481).

Supplementary Readings

Bhandari, J S. Kinship structure among the Rajputs of Baila a polyandrous village of Jaunsar Bawar. *Bulletin of the Anthropological Survey of India.* 1963; 12 (1 and 2); 7-21.

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Table 3 (*contd. on p.* 239)

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Table 3 (*contd. on p.* 240)

Table 3 (*contd. from p.* 239)

PART B : HIERARCHICAL DISPLAY OF THE CONCEPT/TERM

B T Social Structure

. Kinship Systems/Organization/groups
× kinship terminology
Used for vocabulary
×× Classificatory
×× Descriptive

(By basis of formation)

. . Descent
. . . Matrilineal
. . . Patrilineal
. . Kindred
. . Affinity
. . Double descent

(By type of groups)

. . Moeity
. . Phratry
. . Clan
. . Lineage

(By structure)

. . Elementary
. . Complex

(By type of theory)

. . Descent
. . Alliance

Unit IA. Matrilineal kinship

. Kinship Systems
. . Matrilineal

(By country/zone/state)

. . . India
. . . North-East
. . . . Kerala

Table 3 (*contd. on p.* 241)

Table 3 (*contd. from p.* 240)

Unit IB. Kinship Organization in North and South Zone

. Kinship Organization
RT Caste
(By country/zone/state)
. . India
. . . North Zone
. . . . Uttar Pradesh
. . . . Malwa
. . . South Zone
. . . . Tamil Nadu
. . . . Kerala
(By type of methodology/model/principle)
. . Structural
. . Cultural
(By type of group)
. . Nambudiri
. . Nayar

PART—B

Approach/Indexing/Key/Related Terms.
Agnate, Affinity, Alliance, Amitate, Avoidance, Avunculate, Caste, Clan, Cognate, Collateral, Complex Structure, Consanguineous, Couvade, Cross-Cousin Marriage, Descent, Double descent, Elementary structure, Endogamy, Exogamy, Family, Generalized exchange, Hypergamy, Incest, Isogamy, Kin *see* Kinship, Kindred, Kinship Terminology, Uterine, Levirate, Lineage, Marriage, Matrilineal, Moiety, Monogamous, Monogamy, Patrilineal, Phratry, Polyandry, Polygamy *see* polygyny, Polygyny, Primary kinship, Restricted exchange, Rural, Secondary kinship, Sororate, Unilateral group, Urban, Urbanization.

The total number of pages that were required reading for the entire course on "Sociology of family life and kinship", as approved by the teacher concerned, came to 942 pages (in original) of reading materials extracted from books and periodical articles. Those were reproduced on plain-copier in five sets. The total pages of 942 were reduced by half in reproduction. Thus the total cost of copying based on recurring expense of the copies came to Rs 500.00 only for five sets of readings. It was thus possible to assure user satisfaction of the entire class of forty students for a mere sum of Rs 500.00 only.

16 RESULTS OF THE STUDY

The following conclusions may be drawn from the experiment:

1 It is possible to meet with the needs of an entire class of students for a course or set of courses for the cost of less than half-a-dozen titles;
2 The availability of a document in the library is not a prerequisite; the need can be met by borrowing the same on inter-library loan and making copies of the same instantly;
3 It is possible to establish a direct and immediate relation between lecture in the class and accessibility of readings in the library;
4 Documents can be multiplied in infinity by reproducing those in requisite numbers; and
5 Librarians are to be considered as not only active agents but actual participants in the learning process through their involvement in pre-designing of course requirements.

17 CURRICULUM DESIGN IN ECONOMICS

As a follow up of the experiment with course on "Sociology of family life and kinship", a preliminary exercise has been conducted in respect of compulsory course in "Economics" (Course No. 708) : "International Trade, Investment and Payments", for the current monsoon semester of 1984, on the basis of discussions with the course teacher (Table 4). The total number of readings for this course consisted of 15 titles, all of which were published abroad. The total number of pages contained in the fifteen titles comes to 7,158, with the total cost of single copies working out to Rs 2,965.00

On careful analysis with the help of the teacher and a group of students concerned, it was found that about 432 pages (to be reduced by half in reproduction) in original culled from 7 titles constituted essential readings for the first half of the semester course. The cost of reproducing 216 pages in five copies shall work out to Rs 200.00 only, which is a fraction of the cost of single copies of 7 titles recommended as essential readings. The total specific requirements for whole of the semester shall work out to 1,637 pages in original which would require an additional cost of about Rs 600.00 for reproducing five sets of reading materials.

It can also be established that the university may be able to subsidize reprinting of essential reading by making those available to every student of the university at a fraction of the budget of the university. In case a number of courses were to be standardized for several universities, the cost for reprint would come down substantially. It is for the University Grants Commission to take an initiative in this direction. It is thus abund-

Table 4 : Centre for Economic Studies and Planning, School of Social Sciences
Course No. 708 : International Trade, Investment and Payments

	Author/title	*Total number of pages in the book*	*Relevant pages/chapters*	*+Specific requirements for the first half of the semester* (in pages)
	(*1*)	(*2*)	(*3*)	(*4*)
1	American Economic Association : Readings in the theory of international trade. 1970	637	101 (Chapts, 4, 5, 10)	18
2	American Economic Association : Survey of economic theory. Vol 2 1966	271	42 (Chapts 6, 7)	42
3	Bhagwati : International trade. 1981	456	108 (Chapts, 1, 3, 4, 6, 12)	10
4	Dorfman, Solow and Samuelson : Linear programming and economic analysis. 1958	525	26 (Chapts 26)	26
5	Soderstan : International economics. 1980	544	544 (all chapts)	100
6	Viner : Studies in the theory of international trade. 1964	650	158 (Chapts 8, 9)	158

Table 4 (*contd. on* p. 244)

Table 4 (*contd. from p.* 243)

7	Whitaker : Early economic writings of Alfred Marshal, 1867-1890, V 2. 1975	404	78 (Chapts 3, 5)	78
8	Caves and Johnson : Readings in international trade! 1978	604	102 (Chapts 3, 4, 13, 22, 23, 29)	
9	Haberler : International trade. 1970	408	54 (Chapts 2, 3, 9)	
10	Yeager : International monetary relations. 1978	667	292 (Chapts 1-14)	
11	Theberge, ed., : Economics of trade and development. 1968	545	132 (Chapts 5, 6, 8, 12, 15, 23)	
*12	Crockett : International money. 1977	249	—	
*13	Emmanuel : Unequal exchange. 1972	453	—	
*14	Grubel : International monetary relations. 1970	208	—	
*15	Desai and Bhagwati : Planning for industrialisation 1970	537	—	
	TOTAL	7,158	1,637	432

+Specific requirements have been ascertained on the basis of the discussion with the concerned teacher and a group of students of the Centre.

*Required for the overall comprehension of the subject and for applied aspects.

antly clear that collection development policies of academic libraries are to be changed qualitatively, so that user satisfaction is maximized by satisfying the Second Law of Dr S R Ranganathan ("Every reader his book") and thereby assuring that curriculum requirements are met *in toto* by libraries.

18 FUTURISTIC DESIGN

The experiment carried out in the Centre for the Study of Social Systems, Jawaharlal Nehru University can be expanded to comprehend not only all the courses (compulsory and optional) in a single university which has pioneered the experimant, but it can be comprehended to cover postgraduate courses of all the universities. The experiment need not be limited only to providing multiple readings on the premises of libraries of academic institutions, copies of essential readings may be made available to every postgraduate student by reprinting the same and through subdizing the profile-based readings for his or her home use. Such an enterprise when worked out carefully is well within the means of our existing financial resources. The first task shall be to initiate a user study for determining the correct parameters of the project. Such a task is well within the purview of the University Grants Commission.

DEVELOPING REFERENCE COLLECTION IN ACADEMIC LIBRARIES OF THE UNITED STATES: OBSERVATIONS AND VIEWS

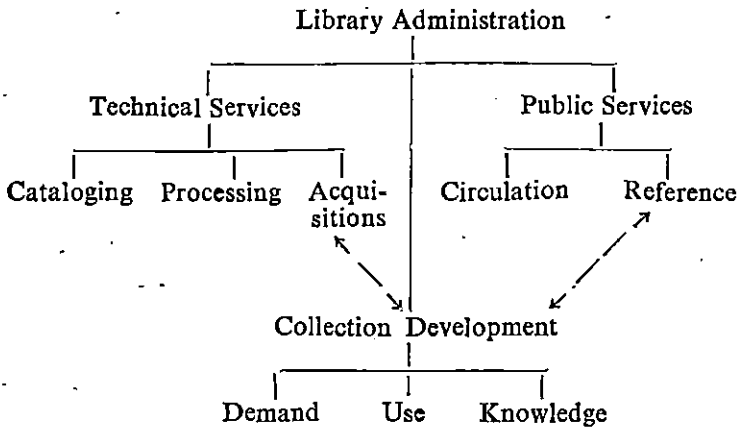
JYOTI PANDIT

1 INTRODUCTION

Since 1960, university librarians concentrated on building larger facilities and acquiring larger collection. Today the most serious problem exists in the field of collection development, particularly in university libraries. Looking at the explosion of information, the librarians have realized that the time has come to change. Libraries cannot operate in the same manner any more. The information is increasing, the documentations are published more, the time has come to select and to collect the information in an organized fashion.

2 COLLECTION DEVELOPMENT

Librarianship, as a professional purposeful, goal-directed activity in the area of collection development, means responsibility of decision-making with reference to use and knowledge.[1] What are the demands? What are the uses? What are the needs? All these questions should be raised to evaluate library collection and to establish collection development standards. The primary constraint here is the document (content) in relation to the user's need. The interplay is among object, content, and use.[2] Subject knowledge to develop collection is the most important aspect. The collection should satisfy the demand of the users, but to develop a collection needs judgement regarding the use potentials of the collection. In today's academic library structure, collection development stands completely separate as an individual department; however, the strong relationship between collection development and acquisitions, collection development and reference services are unavoidable,



3 COLLECTION DEVELOPMENT AND REFERENCE SERVICES

There is a close tie between these two elements. Reference collection is core quality collection of the whole library, around which the library collection is developed and organized. It is just like a bud, out of which the flower can be bloomed. It all depends how you water the plant, or how you organize your reference collection to be developed into full size qualitative library collection.

The responsibility of the librarian is to build collection on a very strong reference collection policies, the selected items should be of inherent value, and it should represent potential need for library. In order to maintain effective reference services, depth of coverage, selection and retirement (weeding or storage) of the library's collection is necessary.[3] Many academic libraries in the United States are in the process of writing reference collection policies, many of them have already established policies for reference collection. If there are no policies or standards, the development could be poor, the demands can not be satisfied and therefore the use of the reference services could be reduced.

4 REFERENCE COLLECTION POLICIES

Reference collection policies should be based upon guidelines of broad subject areas. An innovative method for organizing and sequencing knowledge is suggested by Goffman.[4] According to Bradford's theory, selected group of publishers accounts for a large percentage of books being published on a given subject. Each academic library is unique, each library has its unique needs, and it must set its own standards regarding collection development. The procedures of selection of the materials, acquisitions of materials and weeding of the materials should be established. Reference collection provides basic and indepth information

sources in humanities, social sciences, education, even scientific and technical sources. Reference section also provides the subjects of current interest. The relationship between collection development and reference services are so close that it represents the image of the whole library. It is the responsibility of the reference librarian to help develop the core collection of the reference sources to satisfy queries of the campus community or researchers, and to use the reference material to its maximum capacity. There is no fixed size of reference collection, but satisfaction to demands, students enrolment and curriculum in various discilpines serve as guidelines to determine reference collection. General reference collection consists of certain basic materials such as dictionaries in major languages, encyclopaedias in foreign languages, current edition of Britannica, Encyclopaedia Americana, Collier's Encyclopaedia, encyclopaedia in single volume sets, almanacs and yearbooks in current editions of major publications of the United States and foreign countries, bibliographies on broad subjects, single and various subjects, biography in national and international comprehensive works, directories, handbooks, telephone directories, style manuals, legal materials, library catalogues, theses, concordances, geographical sources etc, should be included in reference collection. Old editions of the works should be either stored or discarded.

5 ACQUISITIONS OF NEW REFERENCE MATERIALS

Since the collection development is the backbone of all library services, it is of prime importance for the librarians to develop this collection in an organized way. Acquisitions of new reference materials is very important. There should be a committee to deal and discuss new reference materials. Many libraries in the United States have adopted this method for the best selection results. The committee should be of 4-5 librarians from reference and collection development departments. The committee members should have subject specialization in humanities, social sciences, and general and technical subject areas. The committee should meet once a week to discuss various reviews from Booklist, Choice, RQ, College and Research Libraries, Library Journal and other such publications. The committee should keep the present collection in mind before the selection, it also should list the needs of the university. Subject bibliographies should be checked. Faculty members should be consulted. Other members of the reference department should be informed in weekly reference meetings. There should be a checklist for weeding the materials, checklist to acquire new materials, and a checklist to select new materials.

6 CONCLUSION

It is the responsibility of the reference librarian to cultivate reference

collection in such a way that all demands could be satisfied and all the potential needs could be taken care of. University library also has its responsibility to establish standards to organize reference collection to satisfy the hunger of knowledge. The time has come to change to restore and collect information in its abundant varieties of forms. Computer age has entered in every disciplines, so as in the library, therefore, the time has come to ask what to select, how to select and what are the use potentials.

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DEVELOPMENT OF BOOK COLLECTION IN COLLEGE LIBRARIES IN KERALA

M BAVAKUTTY

1 INTRODUCTION

There are more than 200 Arts and Science colleges in Kerala, affiliated to the three universities, namely Kerala, Calicut and Gandhiji at Kottayam. It is obligatory for a college to maintain a library for the use of students and teachers. A survey was conducted with the objectives of assessing the development of book collection in college libraries in the state. The data required for the study were collected through : (i) Questionnaires administered to librarians working in a sample of 51 colleges, 34 private and 17 government with due representation to colleges situated in rural and urban areas, (ii) interviews with a representative group of college librarians in the state, (iii) examination of relevant records, statistics, rules and registers relating to libraries available in the concerned colleges and (iv) personal observations.

2 BOOK SELECTION

The data collected through the questionnaire from college librarians revealed that the librarian has no role in selecting subject books in any of the colleges under study. General books are also selected mainly by teachers. However, in 53 per cent of the colleges, librarians also participate in the process of selection of general books.

A college library can succeed in its defined aims only if the book selection is done on sound principles. It is an important process which requires a high degree of co-operation between the teachers and the librarian. But it is observed that the book selection in the college libraries under study is not based on any principle nor is there any co-operation between the teachers and the librarian on this matter. According to the

librarians interviewed the head of each teaching department makes selection, from the publisher's or book seller's catalogues for the amount allotted to that department. In this process he sometimes seeks co-operation of his colleagues. However, it is reported that most of the teachers have not given due seriousness to the book selection. Complaints are also heard from teachers of some colleges that their requirements are ignored by the head and due weight has not been given to the requirements of all teachers alike. As a result of this it is observed that there is lack of balance in the book collection of different subjects.

The fund available for the purchase of books is very meagre. When it is distributed among several departments, the share of each must be very small. With these it is not possible to systematically build up a standard book collection. Therefore, in the present context, according to the librarians, departments are compelled to go for comparatively inexpensive titles. Useful books are not generally procured in the colleges if they are costly.

3 BOOK SELECTION SOURCES

The college librarians were asked to rank book selection sources they used in the colleges in order of preference. The individual ranks were converted into scores and these scores were used as the basis for ranking book selection sources in general. The data is presented in Table 1.

Table 1 : Ranking of Book Selection Sources used in the College Libraries

Rank Number	*Book selection sources*	*Scores*
1	Teachers' suggestions	238
2	Publishers' catalogue	209
3	Booksellers' catalogue	182
4	Book reviews	131
5	Students' suggestions	87
6	Book received for approval	41

'Teachers' suggestions' tops the list of book selection sources by securing 238 scores. 'Publishers' catalogue' and 'Booksellers' catalogue' get the second and third places although the items of information contained in them are not authoritative. It is observed that the teachers mainly use

the publishers' and booksellers' catalogues for recommending new titles to be purchased by the library. Thus publishers' and booksellers' catalogues are the two basic tools used for selecting books in the college libraries under study. It is significant to note that 'Book Reviews' published in subject journals and reviewing journals which are considered to be authoritative, are rarely used as a book selection tool in the colleges studied.

4 BOOK ACQUISITION

All the college libraries under study still invite quotations for purchasing books, as per the directives of the Directorate of Collegiate Education. The maximum rates of discount received by the colleges for English, Malayalam and Hindi books are 17 per cent, 40 per cent and 25 per cent respectively.

In 71 per cent of the colleges books are ordered once in a year. Only in 6 per cent of the government and 41 per cent of the private colleges books are ordered as and when required.

The main disadvantages of the present system of book ordering, according to the librarians interviewed, are that the book sellers who quote the highest discount were supplying those books on which they get a liberal discount allowing a comfortable margin after the payment of the discount to the libraries and evading the supply of books on which they get only a small discount. Most of the learned treatises, reference books, advanced text books etc meant for teachers and postgraduate students, on which high percentage of discount to the book sellers is not generally allowed by the publishers were not readily supplied to the libraries. Book sellers often ignored the reminders for immediate supply until the end of the financial year, compelling colleges to acquire some books towards the end of the financial year in order to avoid the lapsing of the amount.

The UGC prescription of a uniform discount of 10 per cent of the published price in respect of Indian books or the rupee equivalent in the case of imported books is not seen followed in any of the colleges under study. This has, as stated above, resulted in non-availability to a certain extent of books essential for the academic programmes of the colleges.

The prices given in the booksellers' invoices are seen accepted in toto by the colleges under study, even if the price is not printed on the book. It is also noticed that in the invoices the price of the foreign books are given in rupees without even mentioning the actual price in foreign currency and its rate of conversion into rupees. This is a wrong practice which will cause financial loss to colleges.

5 CONCLUSION

The books selection for the college library should be specifically orient-

ed towards supporting instructional requirements and helping the teachers to be abreast of modern developments in their subjects. This can be achieved only through careful planning and execution of book selection policies. The use of authoritative book selection sources such as book reviews, subject bibliographies etc should be encouraged and insisted to the maximum extent possible.

All the teachers of a department should be encouraged to participate actively in book selection. Each teacher should submit a list of books that are required for teaching his subject, and the utmost care should be taken to see that all these books are made available in the college library within the shortest possible span of time. But the selection of general and reference books, books on subjects for which the college is not offering instruction, books of cultural and recreational values etc must be made the responsibility of the librarian. He must exercise this function with the greatest caution, securing the co-operation of the whole academic community of the college.

It is desirable that the boards of studies of different subjects constituted by the university are required to prepare lists of standard books to be procured by a college library. This must be treated as constituting the basic collection to be possessed by any college library. However, the colleges may be given full freedom to add any book outside the list. The list must be revised fully in every five years and supplementary lists of standard books on various subjects may be sent to all colleges each year. The approval for starting of a new college or a new course in an existing college must be accorded by the university only after examining the availability of the prescribed standard books by the university Inspection Commission who are entrusted with the task of assuring the facilities in the new college. It is desirable that university librarian is made a member of all such Inspection Commissions.

The UGC directive of 10 per cent discount must be followed for all book purchases. Even this needs to be relaxed in the case of rare publications. Steps should be taken to see that book selection and ordering are spread out evenly throughout the year so as to facilitate the proper spending of the book budget, and avoid its being dissipated in the rush purchase at the end of the financial year.

ETHICS OF COLLECTION DEVELOPMENT IN UNIVERSITY LIBRARIES

R S SAXENA

1 INTRODUCTION

Among the three important functions of a librarian namely, collection, storage and dissemination of reading and kindred material, the collection occupies the most vital position. It is the document collection that gives library a character more so than either staff or building. Unless a library possesses adequate recent documents supplemented with latest reference and bibliographical tools, it can not serve its clientale properly and meet the urge for mental food of its all potential readers which is the prime *dharma* or duty of a librarian. In order to fulfil the obligation of meeting the reader's demand the librarian has to follow certain code of ethics for collection development particularly in developing nations where book budget is usually meagre and irregular, local book production is limited leading to dependence of libraries almost totally on imported books and the spiralling prices of books at the rate of 20 per cent annually and those of journals by 25 per cent whereas book budgets have either been static or slashed because of financial stringencies.

2 EMERGENCE OF CODE OF ETHICS

The code of ethics for collection development owes its existence in order to satisfy the two basic Ranganathan's Laws of Library Science, namely "Every reader his or her book" and "Every book must its readers." In other words no reader should leave the portals of a library without getting the book of his need and every book's existence in the stock should be justified. This naturally expects that the librarian ought to be very cautious in selection of books, their acquisition through vendors and observance of maximum economy in purchase of books and journals keeping in view the efficiency of his library. The effort should be made to provide best books

for the largest numbers at the least cost. However, book selection is a problem particularly in university and college libraries that depends largely on the availability of funds, the special needs of various disciplines taught in the institution and its future development plans. The librarian cannot do much in this respect except making efforts in evolving a formula for equitable distribution of funds among the various disciplines taught in the institution and devise methods of early acquisition of books and periodicals within the allotted funds for each discipline.

3 MEASURES TO BE ADOPTED

3.1 Formula for Funds Allocation

(i) In order to be fair and judicious in allocation of funds amongst the various departments of a university or a college a formula based on the number of students and faculty members of a department evolved by Roorkee University Library is working satisfactorily with very few exceptions in meeting the needs of the students and faculty members of each department. This may be tried by other universities as well. The formula is as follows :

A Number of teachers/scholars/students

1 No. of faculty staff (sanctioned strength) × 2
2 No. of research scholars × 2
(may be counted on the basis of actual enrolment in a year)
3 P G students (sanctioned strength M Sc/M Tech/M Phil × 1
M E/M Arch × 1.5
4 U G students (sanctioned strength)
B E × 1
B Arch × 2

B Initial funds :

1 Major departments — Minimum ceiling to be fixed subject to availability of funds.
2 Minor departments — — do —

C More weightage to newly established departments.

A certain percentage say 60% amount of the allocation made to each department should be fixed for subscribing current journals, back volumes of journals and on binding of books and journals.

3.2 Committees for Book Selection

A definite procedure for selection of books and periodicals should be laid down. In each department a small Book Selection Committee consisting of two to three subject experts with one Officer-in-Charge to act as Chairman and Coordinator should be set up. This Committee should meet fortnightly or once in a month for preparing lists of books needed by the faculty members and students of a particular department. All requisitions of books of a department should be routed through this Committee and the final requisition list should be sent to the main or Central Library by the Officer-In-Charge of the department. The requests of individuals for books and periodicals of specialised nature, the advertisements for latest books in a particular specialised field received from all sources should be vetted and screened by the aforesaid Departmental Committee prior to their inclusion in the book order list of the library. Suggestions of the readers should be given due weightage in book selection and for this purpose suggestion box or suggestion register should be maintained in the library and all the books suggested by the readers should be screened by the Book Selection Committees of various departments prior to their ordering. Meetings of heads of the Selection Committees of various departments of a university or college should be held periodically to decide the book selection policy, allocation of funds to different departments and their utilization within a certain period.

3.3 Selection of Vendors

In large university or college libraries, where books on specialised fields are acquired regularly, experience has shown that it is more helpful to restrict ordering of books through select book dealers specialising in particular subjects of books. Like the case of publishers, the book sellers also specialise in books on particular subjects. Several dealers stock books of certain publishers and secure agency or proprietary rights for acquisition and distribution of books of that particular publisher. Under these circumstances selection of suitable vendors for meeting the special needs of particular library is necessary.

3.3.1 *Purchasing Books through Dealers on Approved Panel*

In several libraries the practice is to purchase books through approved vendors whose panel is drawn in the beginning of the financial year, with the exceptions of acquiring books through publishers directly and buying some urgently needed books not easily available with approved vendors of certain limited amount. This system of ordering books only through approved vendors has several advantages such as :

(*a*) the chances of libraries being cheated in respect of prices charged for the books or double payments made are minimised to a great extent. Even if an error is detected at any stage, the adjustment can be made later on from the pending bills of the party;

(*b*) in the book trade cheaper editions of books specially in the case of foreign publications appear quite frequently. Further, quite often the same title is published by two publishers in different countries and hence their prices differ a lot. Library ethics requires that the library should always go for cheaper editions with the exception of paper bound books of text book nature. If we acquire through approved vendors the books of which cheaper editions might have come in the market, these can be changed by the vendors even after their entry in the library records under the institution's prior terms and conditions of supply of books. This facility does not exist in case books are purchased at random with any book dealer. The below given two examples of books bearing the same title and differing in their prices will all the more clarify this point and at Roorkee University Library the approved vendor gladly replaced the costlier editions of the books with cheaper ones after their entry in our library records :

Author	*Title*	*Year*	*Publisher*	*Price*
Example I				
Money, S A	Microprocessor Data Book	1982	McGraw Hill, NY	$53.50 i e Rs 636.65
Money, S A	Microprocessor Data Book	1982	Granada London	£ 16.00 special price in India Rs 250.00
Example II				
Rao, G V	Microprocessor and Microcomputer System (2nd Edn.)	1984	Van Nostrand, N Y	$38.50 i e Rs 400.00 approx.
Rao, G V	Microprocessor and Microcomputer System (2nd Edn.)	1984	College Book Store Delhi	Rs 50.00

(*c*) Sometimes defective books with either some of its pages missing or wrongly bound are supplied in libraries. The exchange of such

titles with the complete books at any stage can be conveniently done with the approved vendors.

(*d*) The facility of getting books on approval basis or organising book exhibitions in the library of latest publications for spot selection and returning back the unapproved books can be best availed through approved vendors.

(*e*) It is generally noticed that in order to continue their names on approved vendors panel during subsequent years, the approved vendors take greater interest and pains in supplying the books against specific requisitions of libraries as well as take special care in replying promptly about the supply position of books instead of keeping the party in dark for months together.

(*f*) In the event of delay in the release of grants by the Government or other agencies, the approved vendors do not create much fuss or problems for the payment of their outstanding bills and observe great restraint and patience.

3.3.2 *Spot Selection of Books*

One of the most commonly used methods of acquiring books in large libraries is that of spot selection of books which means bringing books to the doors of the library and getting books selected at the spot. This system no doubt provides the opportunity of selecting books after perusal and physical handling of the book and utilising the available unspent funds in time but at the same time it has its disadvantages also. Spot selection of books should be done with great caution and the book exhibitions for selecting titles for library should be held at central places like Central Library of the institution and vendors should not be allowed to contact individually the faculty members for selection of books, otherwise through aggressive salesmanship techniques lot of rubbish or trash literature which does not find easy market at the bookshops is dumped in libraries.

4 PROCUREMENT OF PERIODICALS : INDIAN AS WELL AS FOREIGN

In universities and college libraries a bulk of the library grant say 60 to 70 percent is utilised in subscribing to current periodicals, Indian as well as foreign. Ordering of periodicals is the most baffling problem for the library profession as it involves advance payment to parties and the risk of non-receipt of periodicals in time and their frequent losses in transit. The question whether the periodicals should be subscribed directly through the publishers or through agent has been a subject of debate and great controversy for the last several decades in all developing nations. Experience

has shown that except saving the botheration of correspondence and slight economy in manpower, ordering of periodicals directly through publishers is always safer and economical. Some of the advantages of ordering periodicals directly through publishers are:

(i) In India there is a dearth of reliable agents and some of the agents take advance payments from the libraries and do not remit the amount to respective parties either in time or even at all. They sometimes invest the money received from parties for subscribing current periodicals in some other business and this causes great harm and loss to institutions. In one instance it was found that one Indian agent of Bombay who claimed to be a bookseller, a publisher as well as an agent, did not bother to remit the subscriptions to respective publishers after having realised huge amounts from the institution. Ultimately the money advanced to the subscription agent could be realised from the party after good deal of correspondence and instituting criminal case of fraud and breach of trust against the party. Similarly dependence on foreign agents too is also fraught with risk. In 1966 Library of Delhi lost about Rs 20,000.00 outstanding in its deal with one foreign periodicals subscription agent. Moreover appointing foreign agents leads to lot of correspondence and expenditure on postage.

(ii) Experience has shown that it is always economical to order periodicals directly with the publishers or their sole authorised agents in the country for reasons such as some publishers offering special discounts and benefits to subscribers in cases of payments of subscription made to them directly. They often give rebates to educational institutions.

Random sample cases of ordering ten foreign periodicals directly with the publishers, given in Table 1, will indicate that the institution can conveniently make a saving of Rs 7,326.00 i e 7 to 8 percent in its budget provision. The conversion rates of foreign currencies being taken as :

Bank exchange selling rate	*Good Offices Committee rate*
$ 8.325 = Rs 100	$ = 11.90
£ 6.6925 = Rs 100	£ = 16.30
Dfl 28.08 = Rs 100	Dfl = 3.80

(iii) The missing issues of periodicals are generally replaced promptly and in cases where the stock of missing issues is over alternatives

Table 1 : Statement Showing Amounts of Journals Subscriptions

S No	*Name of journal*	*Amount if paid through Subs Agent on GOC rates*	*Amount paid directly on bank rates*
1	Am Soc of Civil Engrs Proc	$ 734.00 = Rs 8,734.60	$ 734.00 = Rs 8,815.34
2	Chemical Soc Jls	£ 1335.00 = Rs 21,760.50	£ 1335.00 = Rs 19,958.25
3	IEEE Trans	$ 2995.00 = Rs 35,640.50	$ 2995.00 = Rs 35,969.95
4	Insttn of Elect Engrs Proc	£ 351.00 = Rs 5,721.30	£ 351.00 = Rs 5,247.45
5	Jl of Applied Physics	$ 432.00 = Rs 5,140.80	$ 432.00 = Rs 5,188.32
6	Jl of Physics (A-G)	£ 1500.00 = Rs 24,450.00	£ 1500.00 = Rs 22,438.00
7	Metals Abstracts	$ 1020.00 = Rs 12,138.00	$ 950.00 = Rs 11,409.50
8	National Geographic Mag	$ 25.50 = Rs 303.45	$ 24.00 = Rs 288.24
9	Physics Letters Pt A-C	Dfl 6272.00 = Rs 23,833.60	Dfl 6272.00 = Rs 22,328.32
10	Sc Abstracts Pt B+C	£ 910.00 = Rs 14,833.00	£ 910.00 = Rs 13,604.10
	Net saving Rs 7326.28	Total = Rs 1,52,569.75	Total = Rs 1,45,234.47

for compensating the subscriber by refund of money through credit voucher or enhancing the period for subscription by one or two months are easily available if the foreign periodicals are subscribed directly through the publishers.

5 VIGILANCE AND CARE IN PASSING OF BILLS FOR PAYMENTS

It is one of the greatest moral as well as legal duty of a librarian to see that all books received in the library are checked for their soundness and supply against specific requisitions. Further the bills submitted by vendors need thorough checking and price verification of each and every bill acquired in the library must be done. Proper machinery is to be set up for discharging the particular responsibility entrusted to the librarian. Sometimes the librarians have to face the charge of disappearance of newly acquired books from the library or their fake entries in the library records as well as that of having passed fake bills of vendors or having made excess payments to parties. In order to overcome this situation the practice followed by Roorkee University Library though apparently seems to be somewhat disgraceful for the profession but saves the skin of the librarian to a considerable extent in the long run may be adopted by other university libraries as well. An outside agency say a Professor or Reader of some Department of the University may be requested to check the books newly acquired in the library with their entries in the accession register. This checking may be done once or twice a month only. The services of the Chairmen of Departmental Library Committees of different departments of the University may be taken for the checking job and they will be glad to do this job as this will also incidentally benefit them in aquainting themselves with the latest arrivals in the library. The turn of checking of each faculty member will fall once in a year for one month only.

6 MERITS AND DEMERITS OF GOOD OFFICES COMMITTEE RECOMMENDATIONS

No doubt the Good Offices Committee is proving a boon to the profession as it has saved the librarians from the cumbersome process of purchasing books through quotation system or taking approval of competent authorities almost every month in accepting the exchange rates of foreign currencies while passing library bills and being cheated by unscrupulous vendors in matters of acquiring non-discount titles or society and institutional publications, but at the same time its recommendations need not be followed blindly. Librarian ethics calls for observance of economy wherever possible without sacrificing efficiency. In the case of subscribing foreign periodicals there is definite economy in subscribing them directly

through publishers rather than through agents as there exists sufficient difference in the exchange rates of several foreign currencies between the current bank rates and GOC recommended rates. Similarly payment of 15 percent handling charges on non-discount titles also should be made with great care and caution.

7 CONCLUSION

The librarians ethics of collection building requires that readers demand is met to the maximum extent with great economy and efficiency. This requires great planning in respect of equitable distribution of available grants and a well thought of policy for book selection, acquisition and passing of bills of vendors. The following recommendations in this respect are bound to increase the efficiency of a university library.

(i) Allocation of funds should be done on the basis of well laid formula and policy.
(ii) Books should be acquired normally only through standing vendors or publishers and periodicals should be ordered directly with the publishers or their sole distributors or representatives in the country.
(iii) Final selection of books and periodicals should be done by committees of experts.
(iv) Good Offices Committees recommendation need not be followed blindly and ethics requires their suitable modification.
(v) Proper scrutiny of books and bills of vendors is a must prior to their passing for payment.

FINANCIAL RESOURCES OF THE PUBLIC LIBRARY SYSTEM IN THE STATE OF KARNATAKA

S R IJARI

1 INTRODUCTION

A public library is an important social institution. It plays an active and vital role in education, spread of literacy, information dissemination and thus for the overall socio-economic development of a country.

2 FINANCIAL SUPPORT

As public libraries are established and maintained in order to cater to the needs of the citizens, there must be continuous supply of money to run the services smoothly, effectively and responsively. Finance plays a crucial role in the growth and progress of public libraries. It is one of the important governing factors, on which depends their future development. Unlike other Central and State Government Departments, which are revenue fetching, public libraries are revenue spending institutions. Though the profit gained by the services provided by the public libraries cannot be gauged in terms of money, it is always measured against the benefit derived by the community.

The usual sources of finance for the public libraries are :

(*a*) Government grants—Central and State;
(*b*) Library cess;
(*c*) Endowments and private donations; and
(*d*) Other amounts collected by the Authority under rules and bye-laws.

3 KARNATAKA PUBLIC LIBRARY ACT (KPLA), 1965

With regard to the financial support for the establishment and mainte-

nance of public libraries in Karnataka, the clauses in the Act, are more realistic and pragmatic in their scope. This step is an improvement over other Acts enacted in Tamil Nadu (1948) and Andhra Pradesh (1960). The amount thus provided is to be exclusively spent on establishment, maintenance and development of public library services in the State. The salary of the staff is paid from the consolidated fund of the State.

The KPLA, 1965 has made provision for funds in its Sections 30 to 33 :

3.1 *Library Cess*

1 With effect from the date of commencement of this Act,

(*a*) a library cess in the form of surcharge on :

(i) tax on lands and buildings;
(ii) tax on entry of goods into local area for consumption, use or sale therein;
(iii) tax on vehicles;
(iv) tax on professions, trades, callings and employment; shall be levied in the area within the jurisdiction of every city Library Authority under the relevant laws relating to local authorities providing for levy of such taxes at the rate of three paise for every rupee of the taxes so levied;

(*b*) a library cess in the form of a surcharge on tax on lands and buildings shall be levied in the area within the jurisdiction of every District Library Authority under the relevant laws relating to local authorities providing for the levy of such tax at the rate of three paise for every rupee of the tax so levied.

2 A City Library Authority or District Library Authority may with previous sanction of the State Government, by notification increase the rate of library cess levied on any item of the tax specified in clause (*a*) or (*b*) of sub-section (1), subject to the condition that the rate shall not exceed six paise for every rupee of the tax levied.

3.2 *Government Grant to District Library Authority of a Portion of Land Revenue*

1 The State Government shall make annually a grant to every District Library Authority of an amount equal to three percent of the land revenue collection of the district.

3.3 *City and District Library Funds*

1 Every City Library Authority and District Library Authority shall

maintain a Fund called City Library Fund and District Library Fund, as the case may be, from which all its payments under this Act shall be met.

2 There shall be created to the City Library Fund and District Library Fund.

3.4 *The State Library Fund*

1 The State Library Authority shall maintain a Fund called State Library Fund from which all its payments under this Act shall be met.

The finance is collected by all the above means provided under the Act.

4 ANNUAL GRANTS

The position of the finance for the years 1979-80, 1980-81 and 1981-82 of the State Central Library (SCL), City Central Libraries (CCLs) and District Central Libraries (DCLs) in Karnataka is given below, along with the expenditure incurred in detail.

4.1 State Central Library (SCL)

The government is providing grants for the running of the SCL. However, 5 per cent of the cess collected from CCLs and DCLs of the State is also provided for the SCL under special directives of the State Government (GO No 38 SLS dated 6.8.1975. Annexure II).

Year	*State Government Grants*	*Contribution from CCLs and SCLs*	*Total* (in rupees)
1979-80	2,50,000	81,819	3,31,819
1980-81	2,50,000	1,00,707	3,50,707
1981-82	3,00,000	1,11,672	4,11,672

4.2 Expenditure of the SCL

The government has issued directives as to how and in what proportion the expenditure on the SCL under the reference is to be regulated is broadly stated as under :

45 percent for establishment charges
15 percent for TA and DA to State Library Authority (SLA) members

30 percent for development charges of SCL
5 percent for miscellaneous charges
5 percent for reserve

100 percent Total

The expenditure on various issues of the SCL for the above said years is provided below :

(in Rupees)

Year	*Books*	*Period-icals*	*Bind-ing*	*Furni-ture*	*Others*	*Total*
1979-80	1,50,179	69,938	5,459	13,385		2,38,961
1980-81	1,28,391	1,23,115	6,515	42,713	1,330	3,02,064
1981-82	2,91,751	69,188	2,484	16,428		3,79,851

4.3 Annual Grants : CCLs and DCLs

The income from the cess collected, though being the only source for all the ten CCLs in the State is as under :

Year	*Total*
1979-80	29,11,547
1980-81	26,30,177
1981-82	25,26,366

DCLs : The income from the cess and the State Government grants collected for 19 DCLs during the above said years mentioned here :

Year	*Cess*	*State Government grants*	*Total*
1979-80	4,01,877	25,04,032	29,05,909
1980-81	5,45,821	20,83,809	26,29,630
1981-82	6,26,092	12,27,315	18,53,407

It is a fact that the income of CCL is higher than the income of the DCL. The reason is quite obvious, as the city areas have developed in a better way compared to that of the rural area. Naturally the taxes collected in these regions are more.

4.4 Expenditure : CCLs and DCLs

Regarding the expenditure the State Government issued an order referred earlier, for CCLs and DCLs as :

(i)	20%	for establishment charges;
(ii)	15%	for purchase of equipment and building rent;
(iii)	45%	for purchase of books;
(iv)	15%	for subscription of periodicals;
(v)	5%	the library authorities shall contribute to the State Library Fund.
	100%	Total

Expenditure : CCLs

Year	*Total*
1979-80	41,43,408
1980-81	33,54,629
1981-82	47,07,122

Expenditure : DCLs

Year	*Total*
1979-80	35,73,884
1980-81	33,73,539
1981-82	28,06,409

4.5 Observations

The SCL is at the apex of the Public Library System (PLS) in the State. The Director is the Head of the PLS of Karnataka.

The SCL is functioning as a reservoir of books and other reading materials for the entire PLS. Taking into consideration the above important factor, the SCL should have well planned developmental activities. For this there must be continuous flow of adequate finances. The financial figures provided and budgeted during 1979-80, 1980-81 and 1981-82 show the gloomy picture. There is no increase in the finance for early two years. This indicates that no developmental programmes were planned. The other reasons may be that the SCL is unable to convince the State Government of its needs by way of finances or it may be that the Government have not realised the value of the library services.

The KPLA, 1965 clearly states that the SCL is solely financed by the State Government.

The provision directing the CCLs and DCLs to contribute 5 percent of the cess funds collected by them, towards the SCL funds happens to be ill-conceived. This practice definitely curtails the income of the CCLs and DCLs, which are always short of funds owing to various reasons.

The Development Grant sanctioned by the Government to the tune of Rs 2.5 to 3 lakh only every year to the SCL is quite inadequate.

The account rules issued by the State Government are not based on logical principles. They may have been by the non-professional officers in the government.

The expenditure on books and periodicals increased during the past three years (1979-80 to 1981-82) shows fluctuating trend. It may be noted here that generally the annual expenditure on subscription to periodicals goes on increasing. Instead, in the present case, there is a wide variation every year.

In short, a meagre increase of funds cannot bring about any improvement or progress, considering the phenomenon of price rise.

4.6 Annual Grants : CCLs and DCLs

4.6.1 *City Central Libraries*

The CCLs are solely depending upon cess as their main source of income. The amount so collected is utilised for development of book collection and equipment of the CCLs and their branches. No grants are made available from the State Government for this purpose. Whereas the DCLs are collecting the cess as well as the State Government provides the grants as explained earlier.

There is a declining trend in the total amount collected by CCLs and DCLs.

5 REASONS FOR DECREASING FINANCIAL SOURCES

A number of factors are responsible for the decrease in the amount of cess collected and the State Government grants. These are :

1 non-implementation of the provision in the Act to levy tax on profession, trades, callings, employment and on vehicles;

2 in spite of the provision made under the Act to enhance from time to time the case rate from 3 percent to 6 percent, the same has not been implemented. This has naturally curtailed the books funds of the CCLs and DCLs;

3 abolition of the octroi or tax on entry of goods by the government in 1979 has contributed greatly towards the decrease in finances of the CCLs;

4 *Concessions to Agriculturists.* Farmers having less than 10 acres of land are exempted from paying land revenue, by the Government order. This has had an adverse effect on the source of funds for the DCLs, as large number of agriculturists in the State come under this category;

5 the granting of concessions to the agriculturists who are subject to natural calamities like droughts and floods leads to the decrease of funds for the DCLs;

6 the present trend of converting the agricultural lands into individual estates and into residential quarters, adds again to the decrease in cess funds of the DCLs;

7 the civic authorities as cess collecting agents are not prompt in transferring the funds collected for the CCLs and DCLs. The funds are many a time released only after repeated persistence by the concerned authorities and even then the amount is not released in lumpsum but in instalments;

8 the cess collected through land revenue by the government is not paid to DCLs promptly;

9 the contribution of 5 percent of the cess collected by the CCLs and DCLs towards the SCL impoverishes the former;

10 the deduction of the 10 percent as collection charges out of the cess collected by the cess collecting authorities, further reduces the income of the CCLs and DCLs.

Under these conditions, how can the PLS of Karnataka efficiently serve its clientele? How can it be possible to purchase the reading materials sufficiently?

Regarding the expenditure on books and other reading materials, it shows a gloomy picture.

5.1 Government Order

To rationalise and to bring about a standard pattern on spending in the PLS, the Government of Karnataka evolved a formula in 1975 and fixed the percentage for spending on the various budget heads (vide GO No E 38 SLS 70 Bangalore dated 6. 8. 1975).

5.2 Observation

1 According to this order, an amount equal to 20 percent of the total amount collected can be spent on staff salaries and other staff welfare schemes like PF, pension, TA and DA etc. This is not advisable as it reduces the funds for purchase of reading materials.

It may be noted in this connection that under the Sub-section 3 of Section 15, it is clearly laid down that the salary, allowances, pension and similar other payments made to the employees of the Public Library

Department shall be met from the consolidated fund of the State.

2 The government has fixed following percentages to be spent on various items; books 45 percent, equipment 15 percent; periodicals 15 percent etc. The allotment does not seem to be scientific. The allotment of 15 percent towards periodicals is quite inadequate.

3 The rules seem to have been framed by non-professionals, ignorant of the real needs of the readers;

4 To top it all, the contribution of 5 percent of cess funds, towards the SCL fund is undemocratic as the SCL gets full financial support from the government for its operations. In short, such rules should not be framed by non-professionals, that too without the advice of the professionals. Such rules do not help to improve the conditions of the public library services, on the contrary, they check their progress.

6 PER CAPITA EXPENDITURE IN PUBLIC LIBRARIES ON READING MATERIALS

The total population of the State according to 1981 census is 3,70,43,451. Of this the literate population is 1,42,28,947.

The statistics of expenditure on libraries is given below :

Year	*Literate population*	*Total population*
1979-80	0.5591	0.2147
1980-81	0.4940	0.1897
1981-82	0.5547	0.2130

These figures reveal the true state of affairs.

7 CONCLUSIONS

The Public Library is an agency for continuing education and maintaining the literacy gained by the society. It has, therefore, to promote the reading habits of the community by providing good reading materials. But the conditions prevailing in Karnataka are not encouraging.

Money is urgently required to improve the present situation on the following :

(*a*) development of reading materials;
(*b*) audio visual aids are necessary for the illiterates;
(*c*) to improve the inadequate staff;
(*d*) to have functional building.

In the light of the above discussions the following issues are more pertinent :

1 The State Government should have the entire responsibility of running the Public Library System; and
2 Proper guidelines for expenditure on various budget heads should be evolved and implemented.

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INFORMATION TECHNOLOGY IN COLLECTION DEVELOPMENT

NAVJOT KAUR

1 INTRODUCTION

With the emergence and spread of electronic information despite potential problems, humans will be freed of much of drudgery of repetitive manual processes. Libraries will no longer have a monopoly on providing and accessing information, but there are likely to be more library users who will be better served and who will be more aware of computer and information services, yet fewer will come to the library as a place or building. Just as the information technology frees humans to be more human, it will free librarians from typing 3″ × 5″ cards and overdue notices to become information professionals.

Looking at 20th century transformation through a wide angle lens it could be said that we have passed from the age of Ford, through the age of Aquarius, to the Atari age. This last transition involves evolution from a paper-based information society to a society which increasingly communicates and disseminates its information knowledge through electronic, paperless media.

2 TRANSITIONAL PHASE

Within the long history of communication, the print on paper era will prove to be a short one: a period of little more than 500 years. Clearly, we are evolving out of this paper-based era into one that is electronic. We are presently on a transitional phase in the natural evolution from paper to electronic communication. This phase appears to have three major characteristics.

(i) the computers presently used to print on paper;

(ii) printed data-bases exist side by side with their machine-readable counterparts; and
(iii) new data-bases are emerging only in electronic form. By and large, machine-readable data-bases have not yet replaced print on paper data-bases, but this will occur undoubtedly quite soon.

Full transition will occur when the communication structure is adequate to allow electronic distribution to a large part of the audience that needs to be reached, and when the on-line market is large enough to support the cost of data-base construction. It is clear that the market is there.

3 DISTRIBUTION OF INFORMATION

To understand the reasons for this evolution, we need only look at the problems that exist and the ways and means now used to distribute information :

(i) the enormous growth of the information produced;
(ii) the escalating cost; and
(iii) the general inefficiency of current processes of production and distribution.

There are several advantages of electronic distribution of information:

(i) increasing accessibility;
(ii) decreasing cost;
(iii) more rapid dissemination;
(iv) better access, on-line, on demand, anywhere;
(v) and the creation of new forms and new capabilities.

We are entering an age of electronic information production, storage, access, and delivery. Which of the new technologies will have greatest impact on library services, libraries and library users ?

4 STORAGE AND RETRIEVAL OF ELECTRONIC FORM

The collection and storage function, already impacted by static budgets and escalating costs of print materials will change in new digitalized formats and media, such as magnetic or laser optical video disks. Increasingly, electronic publishing will produce information only in digital formats. If the traditional library formats, journals, technical research reports, encyclopaedias, handbooks etc are available in electronic form only, how will libraries store this material. Will any library own a large enough

storage and retrieval facility for this electronic material, or will libraries provide access to remote regional or national data-bases.

Once the full text is in electronic form, several new or developing technologies will support the electronic transmission or delivery of that text to whosever requests it, with few limitations on where and when it will be delivered.

In various combinations, too early to predict, these new technologies will evolve into home and office information work stations. The links between home and other information sources will be electronic and thereby more diverse and efficient. This will revolutionize the way information is gathered, stored, accessed and retrived. The library services, in their traditional form will become obsolete. Certainly no longer will the library have the monopoly on information access and provision as it now does in many institutions or towns.

4.1 The Impact

What will be the impact of all this on the library users.

(i) there will be more of them;
(ii) more of them will be better served and thus more satisfied;
(iii) fewer of them may come to the library, as a place/building;
(iv) they will be more information service and computer-literate; and
(v) they will want the benefit of on-line information services outside the library at a time and place convenient for them.

As regards the impact on librarians, it is too soon to predict whether there will be fewer or more librarians.

In this context Kenney comments, "Libraries will cease to be places and instead will be organizational of people, working at home most of the time, and providing the expertise necessary to help users with the confusing variety of differing and competing technologies, and with searching and retrieving from the many electronic data stores throughout the US, and eventually, the world. There will still be a need for large research collections of printed materials as well as small quickly changed collections of printed popular entertainment type reading materials. The large collections will continue to be staffed by scholar librarians subject-specialists, who all will provide interpretation and access to the collections. These same libraries will also be used by a national library resource system to provide facsinite copies of scholarly materials. Paper will not disappear but it will often be the end product of an electronic search of a database, search results can be printed out if desirable."

Librarians will become information professional; they will realize that they are in the information business, that all forms of information are

legitimate concerns, and to make the many and varied resources available to the public is their most important job.

Moreover, information professionals inside and outside libraries will become increasingly skilled at guiding their clients to the information needed, be this a community data-base or a remote information source. They will become adept at repackaging information to suit needs.

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PROBLEMS IN THE ACQUISITION OF PUBLICATIONS OF STATE GOVERNMENTS

MOHINDER SINGH

There is a wide spread dissatisfaction among the users of libraries due to the poor stocks of government publications, particularly, the publications of state governments. We all know from the experience that even the well known libraries, having sufficient resources, hardly succeed to statisfy the requirements of users so far as the publications of state governments are concerned. Unaware of the problems faced by the libraries, the users, invariably blame the librarians for the neglect of these publications. In fact, the identification and acquisition of publications from the ill-organized publishing and distribution sources is highly complicated and discouraging. The problems can mainly be attributed to the following factors :

1 ill-organized and low placed publications units;
2 inadequate bibliographic control; and
3 lack of proper sales promotion and distribution system.

1 ILL-ORGANIZED PUBLICATIONS UNITS

At the state level there is no independent central publishing and distribution agency comparable to the Department of Publication or Publications Division at the Centre. However, the publishing pattern in the states is almost the same. Some of the priced publications and almost all the unpriced publications are directly issued by the concerned departments and offices. Most of the priced publications including major documents are issued by the publications units which are in a way central publishing and distribution agencies for the state governments. These publication units are central only in the sense that they handle publications of many departments and other governmental agencies. In all the

states, the work of printing, stationary and publications is combined under a single agency. Although performing indentical functions, these agencies have different nomenclature. With some variations, these agencies are in the form of Printing and Stationery Department headed by the Controller, or Directorate of Printing, Stationery and Publications headed by a Director, or Superintendent, Printing and Stationery. The publications wing in each organization is generally in the form of a publications branch, unit or depot. Hereafter, the main agency is referred as Printing and Stationery Department and its publications wing as Publications Unit.

Without any exception, the work involving the printing and supply of stationery to various departments and offices forms a major portion of the activities of the printing and stationery departments. For example, in Madhya Pradesh the total budget of the Office of the Controller of Printing and Stationery is around Rs 10 crores a year. Whereas the budget allocated for publications is around Rs 5 lakhs a year which is about half per cent of the total budget. The position is similar in other states. It is obvious that the publishing activity gets a very low priority as compared to the printing work and the supply of the stationery in the states. Moreover, this is considered as an extra function, particularly, handling the sale of publications. The publications unit is generally placed at a very low level in the organizational structure of the printing and stationery department thereby getting little attention of senior officers. The most obvious reasons for placing the publications unit at such a low level of hierarchy are the large number of printing presses being managed by the officers, the huge amount of stationery items being purchased and distributed, and the least importance being given to the printing and distribution of publications. In addition, the government presses are always loaded with the time bound work of printing forms, ballet papers, etc. Over and above, invariably, there are political and administrative pressures for priority printing leaving the printing of most of the government publications to wait for convenient gaps.

2 STAFFING PATTERN

Primarily because of the main emphasis on printing work, the printing and stationery departments are preoccupied with the management of printing presses controlled by them. For example, in Madhya Pradesh there are 78 modern printing machines installed at various places. Added to this type of situation prevailing in many of the states is the placement of publications unit under the overall charge of a junior official. There is hardly any publications unit having an incharge with sufficient experience and interest in the publishing and distribution of publications. Invariably, the person incharge of the publications unit is of the level of an Assistant

or even an Upper Division Clerk. For example, the official sales depot of Madhya Pradesh at Bhopal is staffed by a Publication Assistant, one Head Clerk, one Upper Division Clerk and one LDC. The other sales depots at Gwalior, Rewa, Indore, etc are each under the charge of an Upper Division Clerk. Having such a staff the publications unit is expected to handle the entire work relating to the sales promotion, distribution of publications and maintenance of stocks and accounts. Not only that the staff posted in these units are generally inexperienced for the jobs they are supposed to do but, also, inadequate in levels and number keeping in view the magnitude of work involved. Because of the lack of interest in this specialised work, most of the persons do not try to get trained in this specialised activity. Instead, they are always on the look out for better opportunities in other sections of the department.

There are only stray examples of persons who have taken some initiative to promote the sale of publications and streamline the distribution system. Even in such cases there is hardly any appreciation from above with the result that the handful of persons joining this wing with some enthusiasm can hardly retain the same spirit. Initiative ignored leads to indifferent attitude towards the job. The person concerned may nourish the feeling that whatever he thought important and initiated was ignored by the authorities because the work was not important enough to interest the authorities. Lack of interest in the compilation of lists and catalogued is mainly because of this phenomenon. For example, one of the persons in the Publications Branch of the Printing and Stationery Department, Punjab took the initiative and compiled the *General Catalogue of the Punjab Government Priced Publications : Corrected upto 31st March 1977* with great enthusiasm sometime in 1978. In spite of the huge printing capacity at the disposal of the Controller, this catalogue got its turn for printing only in 1983. There can hardly be any other reason than the absolute lack of interest and any kind of priority to make this catalogue of only 49 pages to wait for more than four years for its turn. It is doubtful if the same person will show any interest to do this job again.

The staff problem in publications units of most of the states is much more acute than other sections of the printing and stationery departments. The printing presses and the stationery sections are working under constant pressure and vigil because of the time-bound requirements of the indenting departments and offices. These units are forced to keep up at least some pace with the requirements whereas for the production and distribution of government publications, barring few exceptions, there is no such pressure. The demotivated and insufficient staff may show their concern about the ineffectiveness of publications unit, but in practice a large majority do not bother either to disseminate the information about publications or to effectively distribute them.

3 INADEQUATE BIBLIOGRAPHIC CONTROL

It is an obvious necessity that those interested in government publications get timely information about the latest publications and also have access to the primary and secondary bibliographic tools containing information about the existence of relevant publications. As in the case of Government of India, various agencies of the state governments spend huge amounts on the collection of information which is systematically compiled and ultimately most of the information get published in the form of serials and ad hoc reports. Because of the lack of knowledge about the relevant publications due to poor dissemination of information by the publishing agencies, most of the publications produced by the state governments remain unused by the scholars and others who may have got valuable information from these rich sources of knowledge. There is in general an apathetic attitude on the part of publications units towards sales promotion. The librarians and scholars have repeatedly raised the issue of inappropriate lists and catalogues of publications as well as lack of publicity, but hardly any notice has been taken by the concerned authoritiets. It is a pity that even if a librarian or scholar takes the trouble of hunting information about the publications and succeeds in identifying the required ones, there can hardly be any surety of positive response from the agencies concerned.

4 PRIMARY LISTS AND CATALOGUES

Repeated efforts were made to collect latest lists and catalogues issued by the publications units, but the response was discouraging. Only 13 states could provide their lists or catalogues out of which the publications units of Andhra Pradesh, Himachal Pradesh, Manipur and Rajasthan have sent shabbily mimeographed lists. The publications units of Assam, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Tamil Nadu and Uttar Pradesh have produced printed catalogues of their publications. The latest printed catalogues available are: *Assam Government Publications: Stock List (As on 31st January, 1982)*, *Catalogue of Gujarat Government Publications, December 1980, 1981*; *Catalogue of Official Publications in Kannada and English* (Karnataka) no date; *Catalogue of Madhya Pradesh Publications (30-6-80)*, 1980; *Government of Maharashtra: Catalogue of Important Publications*, April 1982; *Catalogue of Government Publications*, (Orissa) (Corrected upto 31st December 1976); *General Catalogue of the Punjab Government Priced Publications* (Corrected upto 31st March, 1977), no date but published in February 1983; *Catalogue of Government Publications* (Tamil Nadu) (as on 1st January, 1981) without any publication date; and *Catalogue of Publications* (Government of Uttar Pradesh) was corrected upto March, 1978 and a *Supplement* covering 1979-1981 publications

was issued in 1982. Among the Union Territories, only the Publications Depot of Goa, Daman and Diu has brought out *List of Publications, 1982.* The departments issuing publications of their own neither maintain a complete record or issue lists nor their publications got listed in the catalogues issued by the publications unit of their state.

None of the mimeographed lists of publications, except of Himachal Pradesh (which is dated 1-1-1979) indicate the date of issue or provide any information about their scope. Even the indispensable information about the ordering procedure is not mentioned and surprisingly only one of them gives the address from where the publications can be ordered. The titles are arranged in *ad hoc* manner lacking information about the sponsoring agency and year of publication. In short, there is hardly any information except the title and the price.

The printed catalogues are not far behind in lacking the necessary features. Except the catalogue of Maharashtra, which indicates that it covers only important publications, none contain any information about their coverage. The catalogues issued by the publications units of Assam, Maharashtra and Uttar Pradesh are the only ones corrected and issued in 1982, that means they are not up-dated for the last two years. The catalogues of Tamil Nadu is corrected upto January 1981, followed by Gujarat, and Madhya Pradesh which are corrected upto December 1980 and June 1980 respectively. The catalogue of Karnataka does not carry any such information but it appears from the listings that it was compiled many years back.

One can very well imagine from these examples that little importance is given to the compilation and publishing of catalogues by various publishing agencies. That this work gets the least attention of the authorities concerned is evident from the fact that the catalogue of government publications of Orissa was not taken up for revision after 1976 and that the catalogue of Punjab government publications which was corrected upto 31st March 1977 got its turn for printing only in 1983. Added to this neglected treatment by a few states, other states have not even cared to produce a catalogue. Out of the remaining states only Bihar and Haryana have the courage to inform that no list and catalogue is available. The other states, including states like Kerala and West Bengal, have not responded to the repeated reminders, obviously, due to not having printed a list or catalogue in recent time. It should be the foremost responsibility of such publishing agencies to produce up-to-date catalogues and make them freely available to their agents and academic and research institutions.

It is evident from an analysis of the few available lists and catalogues that it is almost impossible for the libraries to keep track of the latest relevant publications produced by different states. The experience of a well known library which recently approached the Office of the Director of Printing, Stationary and Publications, Karnataka and the Controller of

Printing and Stationery, Madhya Pradesh for their catalogues of publications will amply illustrate the hurdles created by the unimaginative policy of pricing the catalogues of state publications. After repeated reminders a reply was sent by the Director, Karnataka stating that the price of the catalogue is 50 paise plus 50 paise postage and that the amount of Re 1.00 is required to be sent in advance by money order. The amount was ultimately sent in advance by money order but the catalogue was received after a reminder. Almost same was the case with Controller of Printing and Stationery, Madhya Pradesh. This example is enough to show the avoidable wastage of time and manpower simply to acquire the catalogues which are not even up-to-date. Not many states have the practice to automatically mail the catalogues to their authorised agents. A leading authorised agent of government publications having regular contacts with the publications units has the same story to tell. Failing to get the catalogues of many states by post, the agent purchases multiple copies of the catalogues during his visits to the publications units and sparingly supplies to chosen libraries. As the acquisition of catalogues is equally difficult for the agents, most of them do not take much interest to serve the libraries except for some major publications. The governments are spending lakhs of rupees on the publications and may be virtually writing off a considerable portion of the funds spent on the production of their publications because of the slow sales and dead stocks, but, they do not care to spend a few hundred rupees on the printing of up-to-date lists or catalogues and making them freely available to those individuals and institutions who need them. Unless the information about the latest publications and stocks are made available, there are lesser chances of libraries purchasing these publications and making them available for use.

As in the case of various ministeries and departments at the Centre, many departments and offices in the states directly issue some of their publications. It is rare to come across a department or office at the state level which cares to bring out a systematic list of its publications. The priced and unpriced publications published directly by such agencies do not get listed in the lists and catalogues issued by the publications unit of the printing and stationery department. In other words, there is no comprehensive single list or catalogue covering all the publications of a state or even of a particular department or other sponsoring agency. Many of the publications units have not issued their catalogues and the few available are neither comprehensive nor up-to-date. Depending upon secondary bibliographic sources for acquisition purpose is of little help as by the time the titles get listed in such sources, having their own time-lag, many of the publications may not remain in stock.

5 SECONDARY SOURCES

In the absence of a central organisation for official publishing, there is,

as would be expected, no integrated catalogue of government publications at the Centre or state levels similar to the monthly catalogues produced by the Government Printing Office in the United States and Her Majesty's Stationery Office in Great Britain. In India, at the national level, we do have the *Indian National Bibliography*, compiled and published by the Central Referen ce Library, Calcutta. It is compiled on the basis of publications received by the National Library under the provision of Delivery of Books and Newspapers Act. The Bibliography, though highly useful, can hardly be expected to be comprehensive. Except the main publishing agencies of the governments, many departments and offices fail to regularly send all the priced and unpriced publications. Another drawback is the time-lag between the release of a publication and the release of the Bibliography containing information about the publication. As such it is hardly a useful tool for the selection of publications for the purpose of acquiring them, because after such a long gap most of the important publications may not be available with the publishing agencies. The INB being the only bibliography at the national level needs to get more attention and support so that the issues can be made available without undue delay.

In the absence of dependable catalogues of the publishing agencies, a reliable category of secondary sources is the accession lists of the better known libraries having enough interest, and resources to keep track of government publications. In addition to such libraries which exclusively depend upon their own efforts, the libraries of the legislatures, state secretarits and government research institutions, by their very nature and affiliation generally get a better response for the priced as well as unpriced publications of at least their respective states. Because of their position most the government agencies oblige these libraries. The Parliament Library, by virtue of its unique status, is in the best position to receive the maximum number of government publications. Due to its obligation to the members, the Parliament Library issues one of the most comprehensive and regular accession list, the *Parliament Library Bulletin* which contains an independent section on government publications. Complete catalogue entry is reproduced for each document included in the bulletin. Besides this, many special libraries regularly issue their accession lists. Such libraries attempt to acquire government publications in the areas of their interest. Those research scholars and librarians who are merely interested in a particular subject and its allied areas may find it advantageous to identify a couple of important libraries in the area of their interest and request for their accession lists.

The Library of Congress Office—India, New Delhi acts as an acquisition agency for the Library of Congress and some universities and research institutions in USA. Until 1980, the Offiee used to issue an independent accession list for India entitled *Library of Congress Accession List : India.*

As the government publications of different states are entered under the name of their respective states, the group of catalogue entries under each state form an independent section. After the December 1980 issue, this list has been superseded by the *Library of Congress Accession List : South Asia.* The present list is a monthly record of all publications acquired from South Asian countries namely Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka, by the US Library of Congress Office in New Delhi (India) and Karachi (Pakistan). The entries are organized by the country and arrangement for India continues to be the same as it was in the *Library of Congress Accession List : India.* As the Library of Congress Office has made elaborate arrangement to acquire government publications and offers lucrative terms to its representatives or agents in the state capitals, it has been possible for the Office to acquire priced and unpriced publications and also most of the publications falling under restricted category. At present, no library in India can match the financial and manpower inputs of the office to acquire government publications. This is the only agency which offers a fee for the acquisition of even unpriced publications procured by its agents. Therefore, at present this Accession List is the best source with good coverage.

Many important publications of the state governments, particularly statistical publications, are issued as serials. The Library of Congress Office has issued *Library of Congress Accession List : Quinquennial Serial Cumulation* in three volumes. Volume I covers commercial serials, alphabetically arranged by language serials, Volume II covers government and quasi-government serials, alphabetically arranged by language and within the language group by issuing agency or title; and Volume III contains a subject arrangement of titles listed in both volumes. Volume II of this set remains the only source of information exclusively devoted to government and quasi-government serials. The subsequent annual supplements to the *Quinquennial Serials Cumulation* contain information about the government and quasi-government serials in part 2 of each supplement.

If the accession lists are to be used for the purpose of acquiring government publications, care should be taken to depend upon the accession lists of only those libraries which are fairly prompt in their acquisition and processing activities. The greater the time-lag between the release of a government publication and the order for its acquisition, the greater is the chance of its getting out of stock.

6 SALES PROMOTION AND DISTRIBUTION

The inadequate lists and catalogues, that too brought out only by a few states, and their limited availability is blocking the way of better sale of government publications. No publications unit is maintaining proper

mailing list for the distribution of catalogues. There is no indication from any of the publications units that the lists or catalogues are mailed to academic and research institutions as part of the sales promotion policy. As a general policy each publications unit should be expected to periodically up-date the catalogue and automatically mail to the prospective clientele including university and research libraries. Except in rare cases, none of the publications units announce even the important publications in national newspapers and journals. Even those few units which exceptionally use the newspaper media confine themselves only to the local newspapers. In the case of journals the advertisements are generally limited to those which are produced by various state agencies, particularly, those printing and published by the printing and stationery departments.

The pattern of distribution is similar in all the states. The unpriced publications, limited copies of the priced publications, meant for free distribution, and in exceptional cases the entire lot of priced publications are directly distributed by the sponsoring agencies. Because the sponsoring agencies are not geared to undertake such a job, at times it is highly frustrating to deal with them. The acquisition librarian requires sufficient patience and capacity to absorb disappointment in order to continue the efforts to acquire publications, particularly, directy from the sponsoring agencies. A typical example is the author's own efforts to acquire a copy of the Sixth Five Year Plan from Planning and Development Department of the Government of Assam. The correspondence was initiated on September 29, 1982 followed by a reminder. The reply was received after two months stating that the government had not finalised the plan. The matter was reopened with a letter on January 1, 1983 followed by appropriate letters and last reminder on February 10, 1984. After six reminders and a gap of more than a year, the department replied on February 10, 1984 that the plan was still not available. Surprisingly, only after a month, the department sent another letter on March 12, 1984 informing that the publication was out of stock. After getting such shock treatments, there may not be many libraries left in the field so far as acquisition of publications from the state agencies is concerned.

The distribution of priced publications handled by the printing and stationery departments is done directly by their publications units, their sales depots and through a network of authorized agents. The publications units are not organised to undertake effective distribution either by themselves or through the sales depots and authorised agents. The sales depots are in the worst position because of their being located away from the headquarters and having a skeleton staff with an incharge of the level of an Assistant or a Clerk, drawn from the general pool without having interest or knowledge of the book trade.

The printing and stationery department in each state has its own terms and conditions for the appointment of authorised agents and supply of

publications to them. Some states like Haryana and Punjab ask for a security deposit and impose a condition of minimum annual sale. In Madhya Pradesh the agency for the government publications stands cancelled if not renewed at the end of each year. There is no uniform rate of discount allowed by various states. It varies from 12½ percent to 33 percent depneding upon either the number of copies purchased or on bulk purchases in terms of minimum amount. Even a high discount rate of 33 percent looks meager when the publication involved is a low priced one. It is a matter of common knowledge that generally the government publications are very low priced but bulky. The publications unit of the Directorate of Printing, Stationery and Publications, Orissa has an interesting condition in their discount rates of 12½ percent, 20 percent, and 25 percent that these discount rates are subject to a maximum of rupees two for one book. One can very well imagine the disincentive to the agents dealing in Orissa government publications which this restriction of rupees two per book provides. Because of the low cost of publications and unattractive terms and conditions, the agents do not take much interest in the sale of publications except for a few important serials, acts, etc.

Sales through general bookshops are practically non-existent due to lack of proper organisation and incentive to booksellers. Moreover, one wonders how much the authorities worry about selling the publications they produce. Apart from certain exceptions, no advertising is done and as they are very difficult to know about and even more difficult to obtain, they remain semi-clandestine. Because of these reasons, numerous government publications, representing a great deal of work and considerable information of value to the public, remain tucked away in the stores. Although most of them are not of a secret or confidential nature, those publications do not earn their place in the libraries.

7 ANALYSIS AND RECOMMENDATIONS

The numerous complications created by the attachment of publications units to the printing and stationery departments at a very low level of hierarchy and the decentralised publishing policy presently prevailing in the states have made the identification and acquisition of relevant publications most difficult. Added to this is the fact that negligible importance is given to the promotion and distribution of publications. It is a matter of common experience that most of the librarians and scholars have become shy of acquiring and using these publications. Even if the relevant publications have been identified from secondary sources, it may be difficult to know about the right source from where the publications can be promptly acquired. If the present system is allowed to continue, there is little hope of improving the sales promotion and distribution of government publications. The only remedy appears to be a radical change in the

organisational set-up and redefining the functions of the publications units. While it is relatively easy to consult Government of India publications, it is quite another matter in the case of government publications of states. It has been found that even the university libraries do not possess good collections of publications of even their own state. However, it does not mean that every thing is going wrong with the government publishing in the states. It only means that something ought to be done to improve the present situation, which is more often very complicated and confused. With this background, the following analysis, comments and recommendations are made.

In view of the poor functioning of the publications units under the existing organisational set-up in various states, it is necessary to separate these units from their respective printing and stationery departments. Unless a separate agency is created, it will not be possible to give due recognition and importance to the promotion and distribution of publications. The independent publications branch should be attached at appropriate level to the Department of Education and it should be manned by appropriate level and number of staff.

At present, in all the states, the publications are distributed by the publications unit forming part of printing and stationery department as well as directly by various departments and other governments agencies making the identification and acquisition of publications extremely complicated. At times it may be difficult to ascertain whether a publication is available from the sponsoring agency or from the publications unit. It is difficult to understand the advantage to the sponsoring agency if a publication is directly sold. On the contrary, the sponsoring agency can save itself from keeping stocks and relevant records by passing on the sales to the publications unit. Obviously, the present system is inconvenient both to the sponsoring agencies and to those desirous of having easy access to the publications. Therefore, it will be desirable that all the publications meant for sale to the public are handled by an independent central publishing agency. This means centralization of all the priced publications.

The proposed agency should be responsible for preparing up-to-date catalogues of publications handled by them. These catalogues should contain complete information about each title, such as the name of the sponsoring agency and year of publication, as well as the conditions of sale including additional charges for packing, postage, registration, etc. The packing and postage charges should be combined and determined to cover small variations in the postage. This will avoid unnecessary correspondences both by the purchaser and publications branch. This will also eliminate the unnecessary delay which is caused due to seeking clarifications. The catalogues should not be priced and be promptly made available on request which is equally in the interest of the publishing agencies.

As already mentioned, it appears ridiculous that after spending lakhs of rupees on the printing of publications, the catalogue is priced a few paise. The cost of the correspondence entered into may be much more than the few paise required in advance. The catalogues should not only be made available free of cost to all those who may ask for them, but the publications branches should on their own mail the catalogues to the academic and research institutions and authorised agents.

In addition to sales promotion through up-to-date catalogues, these agencies should use various government periodicals and, for selected publications, the local and national newspapers for wide publicity. It may initially appear to be an expensive proposition for sales promotion but it is certain that the rewards will be highly satisfying. This will, undoubtedly, increase the sale of publications resulting in the utilization of information on a large scale. This will also solve to a great extent the problem of dead stock thereby reducing the frustration of many concerned.

At present, most of the authorised agents do not maintain either the appropriate stocks or provide efficient service. Most of the agents get appointed to deal in government publications under the illusion that they will be able to make sufficient profits without making much efforts. These agents are generally under the impression that the government publications are fast moving items and they would not be required to make much efforts for their sales. It is hardly understood that unless the publications are promptly brought to the notice of the prospective customers either by the publishing agencies or by authorised agents themselves, many of them will not come to know and hence will not place orders. Under the present situation, only a few major libraries are making constant use of consolidated information sources like *Parliament Library Bulletin* and the *Library of Congress : Accession List*. Even these libraries, after promptly selecting the relevant material, find it frustrating to deal with the ill-stocked authorized agents who have their own reasons and problems for the poor service.

There will be no harm if the prices of government publications are slightly increased to meet a part of the promotional expenditure as well as to allow a little higher margin of profit to the authorised agents. Most of the government publications are low priced as compared to the publications produced by commercial publishing houses. For example, a dealer selling a commercial publication say priced at Rs 100 to a library allowing 10 percent discount, can normally make a gross profit of Rs 15 if the commission allowed by the publisher is 25 percent. A government publication of the same bulk may carry a price of about Rs 20, and, at this price, a dealer allowed the same rate of commission can make a gross profit of only five rupees when it is sold at the net price. In actual terms the gap in profit will still be wider because the overhead charges for handling a publication will almost be the same irrespective of its price.

Moreover, booksellers can easily get the books on credit and in many cases on return basis from commercial publishing houses or distributors, whereas, the authorized agents have to block their own money because generally no credit is allowed by the government publishing agencies. It is much more difficult for a small dealer of government publications to make sufficient profits and remain in business as compared to the bookseller dealing in commercial publications. It is, therefore, recommenend that the scales of commission allowed to the authorised agents should be at least the same, if not higher, as allowed by the commercial publishing houses. To encourage the efficient agents in all parts of the country to deal in the publications of different states, it is advisable for all the publishing agencies to come together and decide fairly attractive uniform rates of commission and other terms and conditions of sale.

PROBLEMS WITH THE LESS USED BOOKS AND THEIR STORAGE : A CASE STUDY

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1 INTRODUCTION

Both space problems and economic circumstances are pressing the special, academic, and even the public libraries to tackle the problem of continuously expanding the library's carpet area in order to accommodate both the existing and incoming library stock. By using both the instrumentation of acquisitions and disdarding, a living stock can be organised more effectively. As time goes on, the thought content of books that was once relevant becomes redundant. The books now fallen into obsolescence are to be observed from use point of view. Indian Statistical Institute (ISI) Library, Calcutta having more than one lakh present collection (except periodicals, records-reports, and other types of documents) had to be shifted from the previous premises to the new spacious library building about seven years back. From the growth rate in document collection at this library (vide Table 1) it is obvious that it will again create space problem within 10-15 years unless it is not tackled professionally.

2 THE SOLUTION

To make the document delivery service more effective and to provide enough space to the useful documents to be maintained attractively, less used books should be considered for relegation. It is an interface between weeding from and retaining in the active stock. The basic objectives of the relegation programme are to achieve optimum level in statisfying users' demand on the stock left-over (as the active stock) and to test the minimum use potentiality of the 'would-be-discarded' books in the relegated stock.

Table 1 : Growth in Stock (Books only) at ISI Library, Calcutta

Year	*Number of books added to the stock*[1]	*Additional shelf length required*[2] (in ft)	*Additional number of almirahs required*[3]	*Additional floor space required*[4] (in sq ft)
1978-79	5,160	524.6	25.5	312.1
1979-80	2,832	287.9	14.0	171.3
1980-81	2,863	334.4	16.3	199.5
1981-82	2,803	284.9	13.0	159.2
1982-83	2,021	205.4	10.0	122.4
1983-84	2,168	220.4	10.7	130.9

1 *Source* : Indian Statistical Institute Annual Report of respective years.
2 Calculated @ 1.22″ shelf space per book.
3 ,, ,, 20.5″ shelf length per almirah.
4 ,, ,, 12.24 sq ft floor space per almirah.

3 RELEGATION : A CASE STUDY

In the relegation programme, the first task is to determine what to relegate. The following oriteria : (i) additional copies; (ii) editions; (iii) succeeding works; (iv) date of publication; (v) date of acquisiiion; (vi) use and (vii) physical condition, may be adopted singly or in combination at a time. These have been tested in order to decide on a formula for relegation.

Our study at ISI Library reveals that, only one criterion cannot justify the relegation. To achieve the optimum result the method which combines the 'year of publication' with 'use' may be adopted. This method presupposes that a library attached with a 'research institute' should always attempt to acquire latest books ouly. The method chosen for relegation may be to screen out all the books bearing year of publication before a certain pre-determined year (Y_n) and showing no use since certain year (Y_m). The time gap that exists between Y_n and Y_m should be so chosen that it enables the book to show its minimum use potentiality. This method automatically exempts the recently acquired books from the purview of relegation and simultaneously assures outright relegation of the old and unused books. It also ensures the relegation of books which had been used but have now fallen into disuse due to superseded works

and editions or some other reasons etc. The books are ensured to stay on the shelves after purchase for a reasonable period of time. This shelf-life is sometimes 10-15 years during which it should show minimum use potentiality.

A study based on the aforesaid criterion was conducted at ISI Library, Calcutta at the end of 1983 (data covered upto December 1982) on econometrics (sample size : 477) in primary zone and diseases (sample size : 381) in secondary zone of the subject interest of the readers. It reveals that the percentage of books to be relegated on the subjects 'econometrics' and 'diseases' published before 1965 and featuring no use since 1978 are 16 and 54 respectively.

The following categories of books should not preferably be considered for relegation to the dormitories though they are grouped into less used items through the survey :

(*a*) books having strong use potentiality in future;
(*b*) rare and reference books;
(*c*) standard text/treatise books (essential for core collection);
(*d*) books having less than 15 years of post-acquision shelf-life.

4 STORAGE OF RELEGATED BOOKS

With the objective of optimizing storage of the collection, the total collection is to be evaluated to determine which items are most used and which items are less used. The most used portion of the collection should be stored in the most accessible and convenient location and less used portion in less convenient and less accessible location. The latter may be stored either in compact book stack located in library building or in an off-campus dormitory. This may be owned by the particular library itself or may be a co-operative one in which less used materials from a number of libraries are stored and organised. Some problems associated with off-campus dormitory are : (i) the delay at the time of retrieving a book from storage when it is needed, and (ii) the transportation costs associated with this retrieval.

Another factor may be considered during the storage of less used books which do not need to be stored by any type of classified arrangement as these areas are accessible to the library staff only. Hence a number of compact shelving methods may be adopted. One of these is that the books may be stored first by size and then under each size group according to accession number. It would be economical and efficient both at the time of storing and retrieving.

At the beginning, entire shelf-length of the dormitory stack area is to be divided into few (e g three) size groups. The shelf heights of individual group of shelves should be adjusted accordingly for facilitating maximum accommodation. Narrow lays and aisles will also add extra compactness. The

shelves should be either of sliding door or open free-standing type racks. The latter should provide standard containers where books in groups may be stored either on fore-edges or in piles to prevent them from dust and light. Rooms should be well ventilated for avoiding dampness. Stacks may preferably be multitiered to avoid misuse of any vertical space left unused upto the ceiling. During the technical work associated with relegation, each book should be assigned to one of the pre-set size groups according to their sizes and thereafter prefixes (e g R 1, R 2, etc indicating relegated group 1, 2 etc respectively) should be added to such books' call number. Apart from this location symbols should be displayed on the respective catalogue cards.

The main stack area of the Indian Statistical Institute Library is now spread over three floors of a new spacious building. The almirahs (mostly wooden with adjustable shelves) with doors are placed in rows fixed back to back and leaving browsing space of 48″ in between the door sides facing on either side of the row. Readers feel convenient and comfortable to consult the books in this spacious stack area.

Table 2 : Mechanical data on ISI Library Main Stack

(*A*) *On Almirahs*

Height = 78″
Door clearance = 24″
Vertical clearance (upto ceiling) = 41″
No of shelves/almirah = 6
Floor space consumed = 12.24 sq ft/almirah
Average no of books accommodated = 34 × 6 = 204 (approx)

(*B*) *On Shelves*

Height = 12″
Length = 41″
Depth = 12″
Shelf length/almirah = 6 × 41″ ≃ 20.5 ft
Max no of books accommodated/shelf = 41/1.22 ≃ 34 (approx)

(*C*) *On Books*

Thickness (average over 300 standard books)	= 1.22″
Height ,, ,, ,, ,,	= 9.5″
Breadth ,, ,, ,, ,,	= 6.5″
Maximum number of books accommodated/100 sq ft	≃ 1,634 (approx)

The survey on the stack area reveals (Table 2) that the existing normal shelving method and the almirah arrangement can accommodate approximately 1,634 books on 100 sq ft floor area. The books are kept on their bottom edges on the almirahs (each having six shelves of both height and depth 12″ but length 41″) which cover 12.24 sq ft floor area including door opening clearance. About 204 books (average width of 1.22″) can be stored in each almirah at saturation point. This open access stack needs wide bay and almirahs not beyond 6′ in height for easing browsability. But the dormitory stack area for the less used books needs no such restriction aiding browsability as only the library staff are to work there.

As it will be an unwise decision to adopt a completely new stack system with revised shelving arrangement in an established library like ours, we may propose only a modified system for the dormitory storage of the less used books.

4.1 Stacking

4.1.1 *Modification Number I*

Bay width may be reduced from 24″ to 12″ in-between the rows. Though it creates difficulty in opening the doors of facing almirahs both at a time but it increases the accommodation of books per 130 sq ft by 79 percent (as estimated in Table 3).

4.1.2 *Modification Number II*

The unused portion of the space at the top of the almirahs up to the ceiling may be made use of by extending additional shelves. It increases the book accommodation by 160 percent per 100 sq ft over the existing system.

4.2 Shelving Arrangement

At the dormitory, any unconventional shelving which leads to maximum accommodation may be adopted. Two modifications are suggested.

4.2.1 *First Modification*

Instead of allowing the books to stand on their bottom edges they may be allowed to lie down and then piled up one over another upto the shelf height. This will increase shelf accommodation by about 79 percent.

4.2.2 *Second Modification*

Books may be allowed to stand on their fore-edges and thereafter shelves be adjusted to the height of 7.9″ (based on the estimated average

Table 3 : Comparison of Accommodation

S No	Shelving system	No of books accommodated per shelf	No of books accommodated per almirah	No of books accommodated per 100 sq ft of stack area with different stack arrangements		
				Existing	Modification I	Modification II
1	2	3	4	5	6	7
1	Present (Normal)					
	12″ shelf ht	$\frac{41}{1.22}$	34 × 6	$\frac{204 \times 100}{12.24}$	$\frac{204 \times 100}{6.83}$	$\frac{34 \times 9 \times 100}{6.83}$
	6 Shelf/Almirah	≃ 34	= 204	≃ 1,667	≃ 2,987	≃ 4,480
2	Books piled on					
	12″ shelf ht	$\frac{41 \times 12}{6.5 \times 1.22}$	61 × 6	$\frac{366 \times 100}{12.24}$	$\frac{366 \times 100}{6.83}$	$\frac{61 \times 9 \times 100}{6.83}$
	6 Shelf/Almirah	≃ 61	= 366	≃ 2,996 (179% of that in Row 1)	≃ 5,354	≃ 8,038
3	Books on fore-edges					
	7.9″ shelf ht	$\frac{42}{1.22}$	34 × 11	$\frac{374 \times 100}{12.24}$	$\frac{374 \times 100}{6.83}$	$\frac{34 \times 16 \times 100}{6.83}$
	11 Shelf/Almirah	≃ 34	= 374	≃ 3,056 (183% of that in Row 1)	≃ 5,476 (179% of that in Col 1)	≃ 7,965 (268% of that in Col 4)

books' bradth 6.5"). This will increase 83 percent accommodation of books on shelves.

The preceding stack as well as the shelf arrangement modifications are suggestad keeping in view that for a large library like ISI, instead of using any new furniture at the initial stage of the dormitory, the modification will be a more acceptable one. Gradually it should switch over to either sliding door or open steel racks (having minimum shelf height and depth) standing freely from floor to the ceiling and thereby inter-stack alleys may also be reduced again to 12"-18".

Table 4 : Estimation of Floor Space

Subject areas studied	*Total no of books*	*No of books selected for relegation**	*Floor area required* (in sq ft)		
			by present stock	*by relagated stock*	
				at present stack	*at dormitory***
Econometrics	477	76	28.62	4.5	0.95
Diseases	381	206	22.86	12.36	2.58

*Published before 1965 and of no use since 1978.

**Shelved and stacked according to the IInd modification suggested in Sec 4.2.2.

As discussed earlier the number of relegated books on the subjects 'econometrics' and 'diseases' are about 76 and 206 respectively. If these are kept by following the compact storage system (as suggested in Sec 4.2.2) in the space specified for dormitory in the top floor of the library, these can be accommodated in 0.95 sq ft and 2.58 sq ft of floor area respectively. The books left in the main stack, in the existing shelving and stacking system will now consume 24.12 and 10.5 sq ft of floor areas respectively after relegation programme and thereby provide 4.5 sq ft and 12.36 sq ft of vacant floor space for the forthcoming new books on econometrics and diseases respectively (Table 4). So it is calculated that after relegation total books in two subjects will consume approximately 13 percent and 43 percent less floor area respectively than that in the existing system.

5 CONCLUSIONS

Though the above study is a sample one on two subjects, judicious and

continuous relegation programme of the whole collection on the different subjects at ISI Library will greatly help to tackle the space problem and also other problems associated with document delivery service. It may be applied to any similar organisation with local modifications. Once the less used books are sent to the dormitory storage, demands put on any one of them should be checked for further steps. As this storage is an interface between the weeding and main stock, the follow-up jobs include final weeding/discarding of few titles as well as bringing back (if the use statistics demands) very few titles to the main stock.

It is true that due to the non-accessibility and non-browsability of relegated stock, automatic loss on the part of the circulation credit point can not be avoided but service effectiveness from the main stock will definitely be escalated.

If this programme can be made a continuous process, the age-old and not-used books should be considered for discarding. Hence some more forthcoming less-used books from the main stock will find their room at the dormitory.

Through the mechanism of relegation and discarding, the main stock would be more dynamic. As a whole the services to the readers will be more prompt and administrative problems will be lessened.

6 MAIN ISSUES

1 Less-used books should be considered for relegation without any hesitation.
2 Relegation formula finally chosen should be able to screen out less-used books out of the total stock very systematically and correctly.
3 A much compact storage system, which consumes less space (i e dormitory) should be organised for these books:
4 Provision for periodical discarding and bringing back any of the items thus stored should also be made.

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ROLE OF THE SUBSCRIPTION AGENTS IN SERIALS COLLECTION BUILDING IN UNIVERSITY LIBRARIES : A CASE STUDY

S P SINGH

1 INTRODUCTION

Serial according to Katz[1] is a term referring to any publication issued in parts, with a numerical or chronological designation, and usually published over an indefinite period of time. 18th century and even, after the advent of printing, were considered to be the age of books particularly but since the 19th century age of periodicals has started. During 20th century, and during last two decades periodicals have multiplied to the extent that no one is sure as to how many journals are currently being published. Significant changes in the handling of this form of literature have also come into being because of growth in the periodical literature.

Periodicals have become the basic source for any university, research or medical library where main stress is on research only because :

(i) periodicals are the current source of new literature which is not generally available in other sources; and
(ii) periodicals are the basic source of publication of new inventions, theories, trends and viewpoints which otherwise would take years to appear in sources such as books. This can even lead to supercession of inventions and discoveries by advanced research.

2 COLLECTION DEVELOPMENT

Between budget cuts and serial price increase of 80 to 200 percent over a decade, the primary attention of a university or special library is how to maintain a viable serial collection. This is a challanging concern in

science and technology serials collection building because the serials are the major resource for research and price fluctuation is of highest tone.

Libraries have handled the crisis in numerous ways, the most common being the shifting of funds from books and other materials to serials. Since there is a limit to the periodical budget, the librarian is forced to evolve some methods for selecting the best of the limited resources.

3 SPECIFIC EVALUATIVE STEPS

3.1 A Journal Use Study

The library through a variety of means, checks which journals are used by examining:

(i) journals checked out;
(ii) journals frequently photocopied; and
(iii) journals demanded by users and to be borrowed on inter-library loan. This method however has a limitation that it measures only the journals available in the library, not the entire journal literature.

3.2 Circulation Statistics

This is the measure to know how often the journal circulated in the past 3 to 4 years, as well as how often it is used in the library itself.

3.3 Citation Studies

This is much favoured and helps in knowing how often an article is cited in other journals, and in providing a list of periodicals ranked in order of use. This method can also be used for selection of journals and building serial collection.

3.4 Questionnaire

Questionnaire is designed to elicit information about their needs. It helps in selection of journals and also their cancellation.

3.5 Recommendations

The librarian enquires from other librarians, subject experts and anyone who uses certain subject area about the title they would recommend. This is one of the more satisfactory technique usually followed.

3.6 Circulation

Circulation in itself is no guarantee of quality. However, in subject and professional fields it atleast suggests the titles most likely to be read, and there is almost always a correlation between circulation and the findings of the evaluative studies.

4 VENDOR

After deciding about the periodicals to be subscribed, next question comes up with whom we should subscribe:

1 publisher; or
2 subscription agent.

4.1 Publisher

Subscription through publisher can be the best solution for a small library having limited number of periodicals on subscription because :

1 they send automatic renewal reminders;
2 respond promptly to claims, gaps etc; and
3 price proof verification is not essential.

But for a big library having large number of periodicals on the subscription list one has to depend upon subscription agents because of the various factors explained in the subsequent sections.

4.2 Subscription Agents

Subscription agent is a middleman functioning between publisher and librarian and serving both. For performing this function, he has two sources of income :

(i) discount from publisher; and
(ii) service charges from customer.

In earlier days subscription agents used to receive handsome amount from publisher for servicing library subscription and used to give some percentage of discount to libraries also. But this practice of allowing discount disappeared during 1960's and instead service charges have been levied. This means that a journal listed for $ 34.00 used to cost to a library say $ 32.00 but now it costs, about $ 40.00 ($ 34.00 list price + $ 6.00, postage and handling charges.) An important example is that of

'International Journal of Sociology of Language' which gave the list price as DM 190.00 + DM 9.20 for direct mailing + DM 16.80 for postage bringing a total of DM 216.00. One obvious reason for such a situation is that publishers do not permit discount in all cases and in many cases publisher clearly writes "no indirect (through agent) subscription is permissible" (as they no longer find it profitable to use a middleman). But the number of titles, number of issues per year and variety of publishing schedule are the factors which make it extremely difficult to organise orders without subscription agent for a big library. Naturally the alternative is to use a subscription agent.

4.3 Functions of Serial Agents

Subscription agencies are expected to perform undermentioned functions for collection development:

1 accurate and prompt placement of new order with the publisher;
2 speedy and vigorous attention to claims and for adjustments;
3 timely renewal of expiring subscriptions;
4 establishing of common expected expiring dates;
5 informing about new journals coming up; and
6 helping to complete the gap by acquiring back sets.

5 ACQUISITION PROCEDURE

5.1 Stages in Acquisition

The various steps involved in the whole process are :

1 A request from department (users);
2 preparation of an order by the library;
3 mailing the order to subscription agent;
4 receipt by agent and its processing for forwarding to the publisher;
5 forwarding the order to the publishers fulfilment department by subscription agent;
6 processing the order by publishers fulfilment department and the preparation of label for the first issue;
7 transmission of the label to the printing plants;
8 affixing the label and placing the journal in the mail;
9 its travel time to library; and
10 receipt and checking of the journal by the library.

Out of this series of steps stated above, agent exercises control over 4th step. This step is indeed critically important for all other following steps. It is also most difficult to execute it accurately. In this regard

subscription agents have been often heard to say "our main job is to give right magazine to the right reader at right time".

5.2 Invoices

After placement of orders, invoices are received from the agent. Invoicing is a very important factor for choosing subscription agent instead of publisher. Agent would provide us cumulative invoice including most of the titles. This would help us to save money and manpower.

Payment detail for each title is recorded on payment card in the Kardex to help in the comparision of payment details. Any discrepancy is pointed out to the agent with a request for adjustment. Good service can be ensured if invoices are paid quickly particularly for annuals.

5.3 Claim

Claiming is an area of great discord between the serial librarian and agent. Serial librarian needs an eagle's eye for detecting the gaps, reporting the same to the agent on regular basis. For claiming, the basic requirement is that our records should be accurate and up-to-date so that unpleasant situation by putting wrong claim for wrong issue or at a wrong time may be avoided. Stechert-Hafner Book News suggests a fool-proof claiming schedule to avoid interruption in service. It is as follows :

1 Dailies—Claim after 10 days from receipt of last issue;
2 weeklies—claim after 2 weeks from receipt of last issue;
3 mothlies—claim after 2 months from receipt of last issue;
4 quarterlies—claim after 5 months from receipt of last issue;
5 all others—claim after 1 month from usual expected time of issue.

Sometimes gaps also come on account of some other unexpected causes such as :

1 delay of editioral materiāl;
2 difficulties in printing, addressing and binding;
3 delays in mails; and
4 unexpected riots, strikes and other such factors.

Though claiming is in itself very irritating but what to do when in spite of several reminders neither issue is received nor the refund. One very important aspect to be borne in mind by both the parties is—if a serial librarian has an obligation to be prompt in claiming, the agency has a corresponding obligation to be prompt in forwarding and answering

with proper relevance of the matter to the party. These should be properly recorded by the librarian on the records so that any querry about gaps can be reported accurately without taking any time.

6 PROBLEMS IN ACQUISITION

6.1 Extension vs Service

Extension of service is equally frustrating when a publisher finds himself unable to replace the claimed issue, and writes that issue is not available or out of print and comes forward with an option to extend the subscription. This helps to recover our money but creates permanent unwanted gaps in the collection, so it is not a pleasing bargain in building up a library collection.

6.2 Interruption in Service

Serial librarian has a responsibility of sending regular reminder, keeping records up-to-date and processing the invoices very quickly but even than sometimes interruption in service comes. Very often when an agent sends a renewal list before sending the final invoice, it requires a vigilant scrutiny consuming a lot of time. Now after checking and making necessary corrections, it is sent back to the agent who in turn would send us the final invoice. Now bill payer is forced once again to perform the same excercise before making the final payment. This whole process consumes a lot of time and sometimes brings a gap in the service.

Keeping in view the regularity of service multiple year subscription concept has started. This results in considerable saving and regularity in service. But this arrangement is possible, only if, our budgetary resources permit and we have to subscribe a title for more than a year.

6.3 Cancellation

Many times situation arises when a journal has to be cancelled, may be on account of :

(i) recommendation for cancellation by faculty member;
(ii) for subscribing a new journal on the same subject;
(iii) its erratic supply; and
(iv) change of agent, etc.

But cancellation should be done only after expiration of subscription with a proper intimation to the agent/publisher in advance. Cancellation should be recorded on the card.

Problem arises in the cases when a title is ceased, suspended or cancelled before expiry time. At this time it becomes very difficult to get refund from agent as he in turn is also unable to take refund from the publisher. This happens because once agent has been instructed by the customer to pay the amount to the publisher, agent is no more responsible for refund. He would refund only for the titles for which he receives the refund. This may be very less as it would be paid only after deducting service charges etc. Therefore, it is always advisable to complete the issue rather than getting petty amount as refund.

7 DELHI UNIVERSITY LIBRARY SYSTEM : A CASE STUDY

Delhi University Library is a multifaculty library and the patrons are from multifarious fields. Research is of intradisciplinary nature. The library is really the heart of research activity and also for scholars. Periodicals are the basic tools for research and therefore, have very great significance.

7.1 Process of Selection in DULS

The University library subscribes the periodicals on faculty member's recommendation. For subscribing any new periodicals following steps are involved :

1 requistion for new periodical duly recommended by head of the department or deputed liason officer received in the library;
2 checking for duplication from subscription records;
3 completion of bibliographic details, if it is not already available;
4 before subscribing new journal, the other title on the same subject with approximately the same cost has to be cancelled if the funds are not available;
5 forwarding the recommendation with available budget position to the university librarian for his approval; and
6 seeking final approval of the Pro-vice chancellor.

7.2 Order Procedure

After receiving final approval, order has to be placed with agent or publisher. Whenever a new journal has to be subscribed, the first and foremost problem trickling to a serial librarian's mind is with whom it should be subscribed—directly with the publisher or agent? If with subscription agent—which subscription agent? Periodicals subscription is in itself a most frustrating and time consuming process, bothering every serial librarian's mind every day. Every serial librarian is interested in some basic questions like ;

(i) who are the best subscription agents in the trade?;
(ii) their servic conditions and addresses;
(iii) mode of despatch of periodicals by them; and
(iv) their involvement for gaps, damaged and unpublished issues etc.

DULS is subscribing to over 1,500 periodicals (for Faculty of Arts) out of which 800 periodicals are subscribed through agents, others directly through associations, institutions and publishers.

Presently approximately 470 are subscribed through foreign agents and 330 are with local agents. It has been observed that foreign agents take very keen interest and pains for their customer right from first step of placing the order to receipt of first issue by us with due information through their action report regarding gap, cancellation, cessation, or change of period etc. Last year three orders for 300 titles were distributed into three lots and were placed with one foreign agent and two with local agents. From foreign agent bills have been received, processed, paid and supply too has been started but local agents did not send the invoices even. In such situation how can we serve our library clientele, how can we think of carrying over with local agents; moreover very often credit notes are received from foreign agent on account of ceased publication, non-supply, out of print issue and fall in price but it has never been observed with Indian agents unless you notice and ask for it. Many times Indian agents are charging rates for hard bound and supplying soft cover.

Foreign agents are very prompt to reply claims and correspondence whereas its not so with Indian agent. If our Indian agent function in the manner of foreign agent the Indian libraries would never place orders with foreign agents.

8 FUTURE

It is expected that librarian and agent will face new challenges in the ear future, as the number of library subscriptions is on continuous crease. Agent's service to libraries is absolutely dependent upon its abi-y to plan for future and to take help of new technologies. But perhaps ost important of all, is our ability to work together with full coopera-n and coordination. American subscription agencies like F W Faxon nd EBSCO with their continuous efforts, could draw two-third of Worlds' *subscription* service. American agencies as a group have been making substantive efforts to improve their services. If Indian agents works on the following suggestions and strive hard with total involvement, they can also acquire a reputed placement in subscription trade and can help greatly in the task of building a serials collection in a university library.

9 SUGGESTIONS

1. They should try to maintain a data bank on the analogy of foreign agents so as to place quick orders without any delay;
2. instead of renewal list, agent should send the final perfect invoice, so that interruption in service should not arise;
3. practice of providing supplementary invoices should be discouraged unless the subscription rates have changed after the commencement of the subscription;
4. the agents should take all efforts to procure the gaps for its client;
5. air lifting has become a common mode of acquiring the journals, but it should improve further to avoid gaps and damage; and
6. agent has a moral responsibility to send credit note for gaps and unpublished issues rather than avoiding it.

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ROLE OF USERS IN COLLECTION DEVELOPMENT IN UNIVERSITY LIBRARIES IN INDIA : A STUDY

SEWA SINGH

1 INTRODUCTION

The phrase 'collection development' does not seem to be new to the librarians for most of them often use it as a synonym for the terms 'selection' and 'acquisition'. It may, however, be pointed out that 'collection development', as also mentioned by Gardner and rightly so, is more encompassing a term since it involves more than just selection and/or acquisition.

On the other hand, "a library collection is the sum total of library materials—books, manuscripts, serials, government documents, pamphlets, catalogues, reports, recordings, microfilm reels, microcards and microfiche, punched cards, computer tapes, etc—that make up the holdings of a particular library". Shipman has further said that "building a collection may occasionally involve the selection and acquisition of these materials *ab initio*, but in most cases it is likely to mean the planned systematic development of an already existing collection". He, in this statement, makes the scope of the term 'collection development' clear.

Collection development, therefore, is somewhat more than the mere act of selection and acquisition, and is, however, synonym with 'collection building' which presupposes a nucleus collection to build and develop over. In view of this definition and scope of collection development it may not be wrong to pronounce it as a recent phrase pregnant with new meaning. The building and developing library collection is, in fact, the heart of librarianship. It is also at the same time considered as one of the most fascinating tasks, and also that it is "the most important, most interesting, and most difficult of the professional librarian's responsibilities".

Collection development is not done in a vacuum; it is made *inter alia*, in terms of users of a library. However, about a hundred years ago when the libraries of the University of Calcutta, University of Bombay, University

of Madras, Allahabad University, and Punjab University were set up, or even in the present century, when the libraries of Benaras Hindu University, Mysore University, etc came into being, their collection was largely the "fruit of individual munificence". But the situation has undergone a change over the years and collection development now largely depends upon individual library's financial position.

Another important factor, why the university libraries must have their own collection development policies, is that they support the research work of the postgraduate students, researchers, and faculty members. For these purposes university libraries must provide adequate working collection, and not a balanced collection as sometimes is mistakenly said. We can't have a balanced collection because the balance is likely to be disturbed with the addition of either more reading materials, or the users. The real goal of the library, therefore, should be to develop an optimum collection or working collection for its present and potential users.

This indicates that although the libraries are service institutions and librarians are there to serve, but in serving a community of users, the needs of the individual user should never be forgotten and must never be neglected because he comes in the library to seek facts or information, and must not return unsatisfied.

The users are the best judge of the collection of a library. They are in the best position to know what is available in the library and what is not. They can better tell whether the collection is really satisfying their information needs or not. Again, of all types of library users in a university, researchers and scholars are in an advantageous position to offer comments on the quality of the collection, because they are well familiar with the whole range of literature in a given subject area. They may therefore, usefully suggest as to what could be acquired in order to strengthen the holdings and also fill in the gaps in the existing collection.

2 DATA COLLECTION

In a recent survey, conducted by this author, of the university libraries scattered over the entire length and breadth of the country, as many as 968 library users from 32 universities and institutions deemed to be universities were contacted and interviewed. It was intended to interview only post-graduate students, research scholars, and faculty members, and excluded the under-graduates on the presumption that they do not use the university library beyond the text book orbit.

A break up of the users university-wise and category-wise is given in Table 1.

Of the total users contacted, almost half (47.5%) are post-graduate students, while 21.1% are the research scholars, and the percentage for the faculty members is 31.4. Most of the users, from all categories, were

Table 1

S No	Name of the University	Teachers	Research Scholars	Post-graduate Students	Total
1	2	3	4	5	6
1	Allahabad	10	6	12	28
2	Banaras Hindu	8	8	18	34
3	Bangalore	10	4	20	34
4	Calcutta	10	7	17	34
5	Delhi	12	10	15	37
6	Gujarat	15	6	15	36
7	Guru Nanak Dev	15	10	50	75
8	Hyderabad	6	2	15	23
9	Jabalpur	8	2	16	26
10	Jadavpur	9	5	15	29
11	Jawaharlal Nehru	8	5	14	27
12	Jawaharlal Nehru Krishi	5	3	10	18
13	Kurukshetra	12	7	16	35
14	Lucknow	9	4	12	25
15	Madras	8	8	12	28
16	Magadh	6	4	10	20
17	Mysore	8	5	16	29
18	Nagpur	10	4	12	26
19	Orissa University of Agriculture and Technology	7	3	10	20

Table 1 (*contd. on p.* 157)

Table 1 (*contd. from p.* 156)

1	*2*	*3*	*4*	*5*	*6*
20	Osmania	10	8	16	34
21	Punjab	10	8	15	33
22	Punjab Agriculture	8	6	10	24
23	Patna	10	6	14	30
24	Punjabi	10	6	15	31
25	Rajasthan	15	10	15	40
26	Sri Venkateswar	8	8	10	26
27	Udaipur	13	7	14	34
28	Utkal	12	7	16	35
	Institutions deemed to be universities				
29	Central Institute of English and Foreign Languages, Hyderabad	12	15	—	27
30	Indian Institute of Science, Bangalore	9	5	10	24
31	Indian Institute of Technology, Madras	6	10	12	28
32	Jamia Millia Islamia	5	3	8	16
	TOTAL	304	204	460	968

critical of the respective library collection regarding their sufficiency as well as quality from the standpoint of their educational and research needs. Their needs have to be correlated with the proper utilization of the university resources.

Let us have a look at the present resources in terms of total documentary collections in 32 university libraries from the four zones of India. The data are presented in Table 2.

Table 2

S No	Name of the University Library	Total Collections	Adequate	Total Reference Collections	Adequate
1	2	3	4	5	6
1	Allahabad	500,000	Not much	10,000	Not much
2	Benaras Hindu Univ	650,000	Not much	15,000	Yes
3	Bangalore	250,000	Not much	5,000	Not much
4	Calcutta	555,000	Not much	5,000	No
5	Delhi	850,000	Yes	10,000	Not much
6	Gujarat	250,000	No	7,000	No
7	Guru Nanak Dev	180,000	No	8,000	No
8	Hyderabad	105,000	No	1,000	No
9	Jabalpur	200,000	Yes	15,000	No
10	Jadavpur	300,000	No	50,000	No
11	Jawaharlal Nehru	250,000	Not much	10,000	Not much
12	Jawaharlal Nehru Krishi	60,000	No	5,000	No
13	Kurukshetra	190,000	Not much	7,000	Not much
14	Lucknow	450,000	Yes	10,000	Not much
15	Madras	425,000	Not much	3,000	Not much
16	Magadh	130,000	No	5,000	No
17	Mysore	267,000	No	20,000	No
18	Nagpur	300,000	No	4,500	No
19	Orissa University of Agriculture and Technology	118,000	Not much	5,000	No

Table 2 (*contd. on p.* 159)

Table 2 (*contd. from p.* 158)

1	*2*	*3*	*4*	*5*	*6*
20	Osmania	390,000	Not much	7,420	Not much
21	Panjab	500,000	Not much	10,000	Not much
22	Panjab Agriculture	200,000	Not much	8,000	Not much
23	Patna	220,000	No	10,000	No
24	Punjabi	227,000	Yes	9,500	Yes
25	Rajasthan	282,000	Not much	5,000	No
26	Sri Venketeswar	230,000	Yes	25,000	Yes
27	Udaipur	85,000	No	1,000	No
28	Utkal	190,000	No	5,000	No
	Institutions deemed to be universities				
29	Central Institute of English and Foreign Languages, Hyderabad	66,500	Yes	3,000	Yes
30	Indian Institute of Science, Bangalore	250,000	No	5,000	No
31	Indian Institute of Technology, Madras	130,000	Not much	4,500	Not much
32	Jamia Millia Islamia	135,000	Not much	3,500	Not much

3 ANALYSIS AND DISCUSSION

From the data presented in Table 2 above regarding the general collections and reference collections in university libraries it becomes clear that in five university libraries (i e 15%) the total collection stands at half and more than half million mark. The holdings of the half (i e 50%) of the total universities covered fall between two to five lakhs; while those of the other 8 libraries (i e 25%) it is between one to two lakhs, and the remaining three university libraries (i e about 9%) have less than one lakh collections to feed their users.

Regarding reference collections, it could be derived from the data given in Table 2 that 43.75% university libraries have between 5,000 and 10,000 documents known as reference collection, while about 22% libraries have the minimum of less than 5,000 volumes. The maximum number of reference documents i e between 20,000 and 50,000 volumes are available in about 9% libraries only, while 25% of them have between 10,000 and 20,000 reference volumes. The median reference collection in an Indian university library is worked out at more than 9,000 volumes.

With regard to the adequacy of the reference collection in these university libraries, it may be pointed out that about 12.5% of the libraries deemed them as adequate to meet with the needs of their respective clientele, while 50% of the university libraries considered their reference collections as hopelessly inadequate. At the same time another 37.5% libraries acknowledged that their reference collections are 'not much adequate' from the point of library users.

On coming to the adequacy of the total collections of the libraries covered, it may be mentioned that 40.62% libraries stated that they did not have holdings adequate to meet with the users needs. Although 18.75% libraries asserted that their collections are quite adequate to meet with the needs of their users, but another 40.62% libraries confessed that they have collections considered 'not much adequate' for the purpose of meeting the multidimensional information needs of their users.

Meanwhile, support for higher education increased significantly after the setting up of the University Grants Commission and as a result were established more colleges and universities during the sixties, the seventies, and also the early eighties. In the portals of the institutions of higher education are more students and larger faculties. Also, there has been a change in the teaching methods (from the traditional lecture method to lecture and discussion method), change in the examination system (i e switching over to the semester and trimester systems), new areas of study, new research methods, new research interests (including interdisciplinary research), etc. All these required more library materials and more library services.

Keeping in view the increasing library and information requirements of the university users for teaching and research purposes the librarians in our country strived to develop their collections further. They tried to procure maximum documents within the budgetary constraints, though the inflow of book grants from the University Grants Commission has been quite handsome for pretty long time. Consequently, there had been significant development in the total library collections. The average collection of an Indian university library had been estimated at about one lakh documents by N N Gidwani at the First University Librarians Seminar held at Rajasthan University, Jaipur in November 1966. The median collection in the early eighties has risen by about 280%, i e from one lakh to more than

280,000 volumes.

In spite of this, as was discovered during the survey, in most cases neither the library personnel were satisfied with their collection nor the users regarded them as adequate enough from their standard.

A cross-section of users from students to teachers was contacted and interviewed, and they gave interesting response. It was elicited from the users (as presented in Table 1) that about 55% (i e 532 out of 968) were satisfied with the respective library collections, and deemed them as adequate enough. About 193 users (i e about 20%) declared the library collections as 'totally inadequate' to meet with their requirements, while another 243 users (i e about 25%) also retorted that library collections were 'not much adequate' to fulfil their information needs. It works out that about 45% of the users interviewed were not satisfied with the adequacy of the current collections of their respective libraries.

In view of the above, general as well as reference collections in our university libraries can not be said to be either optimum or without gaps. This investigator also spotted glaring gaps in the reference collections at many places, in that they were lacking some basic stock of standard and indispensable reference sources. Many faculty members and research scholars pointed out in no ambiguous words suggesting that "latest reference and general books be acquired in the library." They further suggested that the "number of current journals and books should be increased" in order to meet their swollen literature needs.

But the librarians can not promise comprehensiveness of collection, though they occasionally cherish to accomplish this unattainable, illusory goal. The comprehensiveness of collection also tantamounts to lowering the criteria and standard for selection so that the librarians go on acquiring every document they come across. This downgrades the quality of collection which in turn may fail to match the quality of research and education.

On the contrary, the best the librarian can do is to keep track of the unsatisfied literature needs of the users and these should be taken seriously. He can certainly improve his existing collection thus filling in the necessary gaps, wherever required. Not only that he obtains suggestions from his user groups regarding what literature they need, his collection can decidedly be developed to a situation one can yearn to achieve. But unfortunately, consulting library users as to the materials that should be acquired is not a routine practice for our university libraries. Not that they are not cousulted at all, but these consultations generally remain confined to a few senior faculty members only, while the remaining faculty is not taken into confidence, and the student community is almost altogether ignored.

Once the librarian obtains suggestions for collection development from some faculty members they feel convinced that they are doing a "good to

excellent job and that the majority of users are of the same opinion". They feel contented with the type, level, and quantity of the collection they have been developing for their users and therefore take a relaxing seat with an air of complacence. But that is not the real situation. Unfortunately no systematic attempts have been made to study the information needs of the library users in Indian universities. However, some sporadic efforts have been made recently in this area by Sh Girja Kumar and P K Jayaswal of Jawaharlal Nehru University. Similarly, some scant users' studies have also been conducted by few special libraries. Such studies greatly help the librarians to know the information use patterns. These also become very powerful tools for collection development.

It is an acknowledged fact that the libraries lend active support to the educational and research programmes of the universities. For effectively supporting these programmes the university libraries must possess a well-rounded and optimum collection. At the All-India Seminar on Library Resources in University Education and Research, held at Osmania University, Hyderabad during November 25-27, 1982, it was recommended in connection with collection development that it "should be developed by the library in close cooperation with the faculty and other users". They can decidedly play a significant role in all round collection development.

According to the findings of the above-mentioned survey only 15.6% university libraries have 500,000 and more volumes in their collections. At the same time there are about 34.37% university libraries having less than 200,000 documents in their total collection. However, 50% of our university libraries have a bit reasonable collection ranging between 2 lakhs and 5 lakhs. No university library therefore, should have a collection of less than 2 lakh documents, while the optimum limit should be at least 500,000 volumes. It would provide users with more per head volumes to study.

Such a collection developed on the basis of the users information needs would certainly go a long way in supporting the educational and research programmes of the university and thus further its cause.

4 CONCLUSION

We must have a national policy for university libraries in India and then formulate a national policy for the collection development with minor adjustment for each university library in cognizance of its local needs. At present there is no formal written policy or statement for collection development in our university libraries. There is an urgent necessity of having such a collection development policy where the role of different types of users is well recognised and their coöperation is deemed as essential.

Thus a well thought out national policy for collection development in university libraries may be evolved and followed conscientiously. It is also

imperative that user studies be conducted in order to obtain various dimensions of the present information needs as well as the near future requirements. Besides, it is also sugguested that the library collections should be checked against some standard lists to establish the quality.

This will enable the librarians to shun the policy of haphazard collection development, and could help them in fulfilling the major objective of supporting the educational and research activities of the institutions served.

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TECHNIQUES OF USER STUDIES IN THE DEVELOPMENT OF LIBRARY COLLECTION

P K PATIL

1 INTRODUCTION

In the present context, building up need-based library resources is not always an easy task. In any modern library or information centre collection consists of well-chosen primary and secondary sources of information including special materials such as micro-documents, tapes, films, etc. Selection of these materials should be planned systematically in accordance with well defined policies and procedures, so that the library authority will ensure providing appropriate library resources which are sufficient in number, range and quality to meet both general needs and the special requirements of library clientele. In order to make carefully planned selection, professional libraries have to take into consideration factors such as declining budgets, proliferation of publications, inadequate storing space, advent of modern technology (automation and computers) and greater dependace on resource sharing through networks. Professional libraries are aware of some of the novel projects both at national and international levels in resource sharing but based on appropriate technology easily available within the country, we can plan realistic schemes that will suit our local conditions. However as stated by Allen Kent[1], "placing greater emphasis on an 'access' philosophy of providing library service as opposed to a 'local holding philosophy' be accepted as guiding principle in building library resources of any library."

This article is concerned with the major general issue—how some techniques employed in user studies, help in the development of library collection.

The concept of 'user study' is a sort of research activity on the part of a librarian. The methodology involves psychological and sociological

factors in finding the readers' choices and varieties of interest. This requires a deep study about the user. 'User' is the term used in place of library reader, to mean a person or group of persons who make use of the library facilities either within the library or outside the library premises.

More than anything as a measure, the services of libraries depend on the user needs, and as a means of determining these needs, the organised study of use has gained prominence.[2] Effective community analysis requires a complex range of information. An accurate picture should be drawn to serve as the basis for decisions on goals and objectives.[3] On the other hand, the effective techniques are to be chosen on the objectives and the available cost and time factors.

The main objectives of the user study are :

1 to judge the limitations of library system and services;
2 to exploit the resources at the least expenses of money, time and energy;
3 to enhance the quality of acquisition and collection.

Various techniques are in practice in the field of user study. Most of them are not original or new, but have been borrowed from different fields like education, sociology, psychology, communication theory and so on.[4] The important techniques that are commonly helpful in developing the resource collection are discussed here.

2 QUESTIONNAIRE AND INTERVIEW

The questionnaire technique involves high cost and time factors, but allows the readers with ample of time to answer at their ease. The interview technique consumes lesser cost and time comparatively, but the users are forced to answer at once to the questions asked. There will be less chances of remembering important answers. By these techniques, especially from questionnaire, the factors like inadequacy of the collection, the recent publications in the field of interest, the forthcoming publications in the field of interest and the government publications in the field of interest can be studied. In the questionnaire and interview cases each individual gives his opinion and suggestion for collection development.

3 OBSERVATION

Observation of library user is a continuous process involving least cost and time factors when compared to others. There will not be disturbance to the users in the case of non-participant observation. However, the observation technique alone cannot determine the core of qualitative

collection, but observation followed by discussion or participant observation with dialogue will effectively bring the results to comprehend the user needs and thereby has an impact on future acquisition programmes.

Observation of the following aspects provides information in respect of collection development:

Observation of inter-library loan records.
Observation of borrowers' (slips) records.
Observation of recommendation records.
Observation of reference records.
Observation of research papers of users.
Observation of the use of microforms and audio-visual materials.

In fact the technique is common to all the methods that are used to study the users' psychology and use pattern.

4 CASE STUDY

Case study is basically a depiction either of a phase or the totality of relevant experience of some selected datum. The datum may in sociological study be any of the following taken singly or in combination : (1) a person, (2) a group of persons.[5] The study of a group or individual library user provides data, from which one can generalise to the user groups of the given library. For example, the study of papers presented to learned periodicals or conference proceedings by a selected group of users of a special library shows what research materials like periodicals, reports, preprints are referred by the specialists. Through this, the library staff can evaluate what relevant materials are referred in the library, but referred elsewhere. It helps to contact the group of specialists to know their opinion regarding what journals are to be freshly subscribed and what are to be stopped at once.

5 QUERY ANALYSIS

Query analysis is in fact not a technique, but faced by the library staff members when they are posed with varieties of queries. For instance, the queries such as the date of commencement of a conference, the date of a specialised extension lectures, information on recent scientific procedures and data point to the necessity of the resources to the users. Large number of queries on the commencement date of a particular conference indicates the necessity of acquiring or placing advance order for the publications. Number of queries on scientific procedures and data necessitates the procurement of patents and standards of the relevant scientific fields.

6 PROFILE ANALYSIS

Profiles are cluster descriptors that are supposed to comprehend the requirements of a specialist user. The user profiles are composed of terms of his information field. The document profiles are composed of terms contained in the document. The documentalist or the information officer can understand whether the materials acquired in his information centre can satisfy the user needs or not. In fact, he can scan and place order for the relevant materials (periodicals, technical reports, etc) to match the relevancy of information. Hence, profile analysis is a well-established procedure to determine what collection is to be developed.[6]

7 DELPHI TECHNIQUE

Delphi technique is commonly in use to forecast the future trends and requirements. In this case, a group of specialists are chosen to answer the questionnaires regarding future trends and requirements. The so collected data will be analysed and interpreted. Again the descriptive opinion of the data interpreted will be circulated to gather opinion from the same specialists. The final descriptive note will be recirculated to confirm the validity.[7]

The technique points out what field of research will be in progress in future, what research materials are required for the specialists, what plans have to be followed to develop the collection of documents for the needs.

8 CRITICAL INCIDENT TECHNIQUE

The technique involves gathering incidents in a story like fashion from library users as responses to questions asked in informal contact regarding library collection, facilities, acquisition programmes, etc. To illustrate the techniques, we can take the example of an user who is narrating an incident pertaining to the questions asked about use of journals. He may point towards the important journals of recent origin that are not subscribed to the library, but available elsewhere. He may narrate how he wasted time to find out and refer needed journals and reports in other institutions.

Thus, the techniques used to find information needs of users help to formulate programmes for acquisition and maintenance of qualitative collection. By way of conclusion, it is pertinent to point out that there is the distinct advantage in enriching the library resources based on the basic goals such as teaching, information and recreational needs of the library by carefully utilising the data and information gathered during the course of user studies.

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THE INFORMATION TECHNOLOGY AND COLLECTION DEVELOPMENT IN UNIVERSITY LIBRARIES

H R KATYAL

1 INTRODUCTION

At present, society in the West finds itself in the early stages of an evolution from print in paper communication to electronic communication. Whether we like it or not, print on paper will eventually give way completely to electronics, at least for those publications designed primarily to transmit factual information rather than entertain or inspire. It seems entirely possible that the print on paper age will be substantially shorter than the eras dominated by earlier forms such as clay tablets, papyrus, vellum codex etc, an era measured by hundreds rather than thousands of years. The art of micrography has also made gigantic strides. Today thousands of pages of information can be put on a 6″×4″ microfiche. Laser technology, though in infancy, is fast developing. These developments will have far reaching repercussions. These may completely change all previous notions of 'collection', 'libraries' and 'librarians'.

2 DEVELOPMENT OF INFORMATION TECHNOLOGY IN 1960's AND 70's

Tracing the use of computer in the libraries and information science, it has, so far, effected them in two ways. First, and by far the less important, has been the application of computers to the internal record-keeping activities of the libraries; to acquisition, receipt of serials, circulation and cataloguing. The logical end results of this application are two fold: the disappearance of paper records, including card catalogue, and the formation of net-works to permit libraries to share and exchange records (co-operative cataloguing, inter-library loan, shared cataloguing and circulation records and so on). This may be considered the less important appli-

cation because, while it has undoubtedly improved efficiency, it has had no significant impact on the structure of the library or the services it provides. Handling of the material themselves is virtually unchanged. This is not a fundamental metamorphosis of the library. Much more important and far reaching is the use of computers and tele-communications to allow libraries access to outside data-bases. It is far reaching, because, besides greatly increasing a library's capabilities for literature searching and question-answering, it completely changes the economics of access to information. It completely changes all previous notions of 'collections'.

The roots of what has become known as the electronic age in publishing and generation of data-bases can be traced back to the early 1960's when computers were first used to drive photocomposition devices. This led to a period of transition in which computers were essentially used as printing devices—used to print indexing and abstracting publications, magazines and journals, certain types of reference books, catalogues cards—and so on. Perhaps somewhat unexpectedly, it was a library—the National Library of Medicine—that pioneered the use of photocomposition on a full production-basis. Index Medicus has been photo-composed by NLM since 1964. The so-called 'secondary publications, especially those in the sciences, were at the fore-front of this development. It was not long before the machine-readable data-bases generated through this publishing operation were used in computerised literature searching activities, both retrospective searching on demand and for selective dissemination of information. In the 1960's such services were largely performed by using computers in an off-line, batch processing mode.

It was not until 1970's that a significant switch from off-line to on-line access occurred. The move to on-line processing greatly increased the accessibility of data-bases and substantially decreased the cost of searching them. It was in the 1970's too that the telecommunications net-works, to support data-processing activities, emerged. The early net-works were those of Tymshere Corporation and Telenet Corporation. Before the end of the 1970's these net-works, which were based on analog communication, had spread beyond North America to Central America and Western Europe. It was not until the 1980's that the worldwide satellite net-works, based on digital transmission, emerged. The period 1960-80 can be regarded as the period of transition from print on paper to electronic publications. This transitional period had three major characteristics :

1 Computers were used to print on paper and the resulting product was distributed, in a completely conventional manner, through the mail.
2 Printed data-bases and their machine readable equivalents existed side by side, but, by and large, the former had not been replaced

by the latter. Engineering Index, Chemical Abstracts, Index-Medicus exist in printed and machine-readable forms. By early 1980's, however, several secondary data-bases had completely converted from printed to electronic form.

3 New data-bases emerged in machine-readable form only, without ever existing in paper form. The majority of these were actually data banks,—files of numerical, statistical, physical, chemical and commerical data—which could be regarded as essentially types of "reference-books" that emerged in the electronic age. Some however, were data-bases of bibliographic references such as the Information Bank of the New York Times.

Up until the end of the 70's on-line was very largely restricted to access to secondary data-bases. Reference material had greatly out-stripped document-delivery, which was still based almost entirely on paper and microform copy distributed through the mails. While some journals were photocomposed in the 1970's, thus leading to the creation of machine-readable files of complete texts, very little use was made of these primary data-bases in machine-readable form and none could be accessed on-line except in the field of law, in which case, full text of substantial bodies of legal material was accessible on-line as early as the late 1960's.

By the end of 1970's, several new forms of publication had already emerged. In 1978, a periodical on audio-tapes, a popular "magazine" of instructional and recreational materials for use by computer enthusiastic, and designed to be used on a home-computer, was introduced. In the same year, the first self-contained electronic book appeared. The forefather to our present electronics, this was a bilingual dictionary, in the form of hand-held micro-processor, with inter-changeable modules, covering various pairs of languages.

3 CAUSES OF TRANSFORMATION

The problems of the human communications in print are those of growth, escalating costs, and general inefficiency. These dissemination of information can be looked upon as primarily a matter of packaging. The important question is "how can information be packaged, and the packages distributed, so that the information reaches those, who need it in as efficient and economical a manner as possible?" The growth problem in the publishing field (the so-called information explosion) is a multi-dimensional one : year by year information is distributed in more packages, in larger packages and in more diverse forms of packages. As the literature grows in this complex fashion, the literature in any one subject area becomes more dispersed. Consequently, it becomes increasingly difficult for workers in this field to keep abreast with new literature, increasingly diffi-

cult for libraries to collect it comprehensively, and increasingly difficult for secondary services to identify it for indexing and abstracting and to afford to cover it. A second, and perhaps more serious, problem is that the cost to the consumer of many types of publications is rising at a rate that greatly exceeds the general rate of inflation in the economy as a whole. Thus, some publications, primarily, as well as secondary, are known to have increased in price by 800 per cent[1]—in a period in which the general inflation rate (as measured by national price indexes) was 60 per cent or less. The long term future for an activity, whose cost increases are greatly out-stripping inflation in the economy as a whole seems unpromising to say the least.

Journal publishers deliberately restrict the growth of their publication to avoid further increases in cost to subscribers. This, however, creates another problem. Since more people are writing, potential authors find themselves competing for publishing space that is becoming more costly and less available. This leads to greater publishing delays. As Herschmann (1970) has pointed out the journal tries to perform the first too rather well but the third one rather badly. It has been said that the present journal publishing system serves authors much better than it serves the readers. The truth is that the science journal is now more archival than current. It does not reflect what is happening in science today, but, at best, what happened one to three years ago.

It seems reasonable to assume that the most promising solution to the problems besetting the present communication system lies in increasing automation throughout the system. Significant progress has already been made in the automation of portions of the communication-cycle. Substantial further improvement is only likely to come from automation of the entire cycle through which information products are created, distributed, used and preserved. Indeed, on economic grounds alone, it seems clear that the publication and distribution of information must depend less and less on human processing and more and more on computer processing and tele-communications as the costs of human processing will continue to increase, while the costs of electronic processing are expected to continue to decline, within the immediate foreseeable future. Some data on current costs of electronic publication have been presented by Folk[2], Roistacher[3], Senders[4], and King Research[5]. Roistacher points out that per page cost of on-line composition (about $ 7.50, or $ 5.40 at cheaper night-rates) compares very favourably with present composition costs for technical journals. The cost of storing on-line could be as little as $ 500 a year and these costs are still dropping at about 26 per cent annually. The on-line royalty income for many of the "dual mode" publishers is increasing as this market continues to grow strongly. Conversely, subscribers to the equivalent prod ts are declining. They are driving less than 20 per cent of their incom rom on-line access royalties in 1978.

Some of them are expecting to reach the 50 per cent level in 1985.

4 FUTURE FORECASTS

A Delphi study on the future of electronic publishing involving librarians, publishers and technologists has been undertaken and reported by Lancaster, Drasgow and Marks[6]. Participants were asked their opinion on whether conversion to electronic form would occur by the year 2000, after that year, or never. The following are among the specific forecasts made by the participants in this study :

(i) By the year 2000, 50 per cent of existing indexing/abstracting services will be available only in electronic form. The 90 per cent level of conversion will not be reached until later;
(ii) existing periodicals (in science and technology, social sciences and humanities) will not reach even the 25 per cent level of conversion until after 2000;
(iii) by 1990, 25 per cent of existing reference books will only be available in electronic form. The 50 per cent level of conversion will only occur after 2000; and
(iv) by 1995, 50 per cent of newly issued technical reports will only be available in electronic form. The 90 per cent level will be reached after 2000;

It must be noted that these forecasts relate to the world-wide production of publications. Had the study been restricted to the United States, a greatly accelerated forecast would probably have emerged. The Delphi participants predict that actual conversion to electronic publishing will lag behind its economic feasibility which in turn will lag behind the technological feasibility. Most participants agree that the stage of technological feasibility has already been reached and that the economic feasibility stage, if not already here, is close at hand.

It may be pointed out that the evolution applies most clearly to publications, conveying factual information. It is perhaps unlikely that novels, common magazines, children books and other general interest publications will be read at on-line terminals. It is highly probable that such work will last much longer in print on paper form than other types of publications. This does not necessarily mean that they will last foreever, when they will be replaced by things other than "conventional" on-line systems. Perhaps the novel as an art form may eventually give way to regional dramatic presentations issued on audio-tape, video tape or video disc.

The full transition from a paper-based society to a paperless society is dependent upon several developments, including the acceptability of books, being read on television screen, especially so, in the case of books,

which are read usually in their entirety. The two most important requirements are :

1 Substantial number of people to be reached by various publications must own terminals or have these devices readily available with them.
2 The audience to be reached by various electronic publications must be large enough to support the full cost of producing the publication and distributing it or making it accessible on-line.

Achievement of these two developments, in turn, is predicated on the fact, that the costs of producing/distributing publications electronically, will continue to decline rapidly relative to the costs of producing and distributing these publications as print on paper.

It seems that both these requirements will have been satisfied well before the turn of the century. Clayton and Nisenoff[7] estimate that there will be approximately 100 million on-line terminals in use in the United States by 1995, While Baker[8] quotes an AT and T projection that there will be a billion terminals in North America by the year 2000. The former figure, at least, excludes, domestic television sets, which are adjustable to request and receive text. As Brannscomb[9], Kubitz[10] and others have pointed out, computer and tele-communication processing, as well as electronic storage, will continue to decline rapidly, in cost well into the foreseeable future, thus increasing the viability of completely paperless processing.

Besides, technological application relevant to the future information systems include computer conferencing, texts editing and word-processing in general, electronic mail and the paperless office, computer aided instruction, satellite communication, interactive television as exemplified by teletext and view-data type system and on-line searching of data books. So far, these applications while closely related in many ways, have existed, as entirely separate activities. It is not unreasonable to expect, however, that these various applications alongwith new capabilites yet to be developed will some day be brought together into a completely paperless communication net-work. In other words, they will form the communication infrastructure of a paperless society. In this system professionals in all fields of human activity will use electronic communication and storage in place of the generation, transmission, storage and destruction of billions of pieces of paper.

5 IMPACT ON COLLECTION DEVELOPMENT

Before computers, the only way to make an information accessible was to buy it. When a library purchases a book or periodical, it does so for one reason and one reason only : to make it accessible to library users. This accessibility is achieved through a capital investment in the physical

availability of materials on library shelves. Through its acquisition policy, a library divides the universe of bibliographic resources dichotomously : those things it adds to its collection and those it does not. A subscription buys only access. The cost is incurred whether or not, the item is ever used. Because of the difficulties of determining need and predicting demand, many items added to large library collection are never used at all. They are in the collection as a kind of insurance; buying them is the only way of making them readily available, should they be needed by a library user.

The ability to access a data base on-line changes all of this. A library need not make a capital investment in an electronic publication to make it accessible. To mention one obvious example, there will be no need to subscribe to printed "Chemical Abstracts" at $ 5000 or more a year. It would be accessed when needed; the library will pay only for the amount of access used at the time. This has a number of important implications : First whereas in the print on paper world a library can afford access only to those publications, whose cost will be offset by a certain level of expected use, this is quite untrue of the electronic environment. Any electronic publication is no more or less accessible than any other. A source needed once every five years is just as accessible as one needed daily and may cost no more per access to use. In other words, the distinction between what a library owns (ie has within its four walls) and does not own is beginning to break down. The university libraries in the West can now provide question-answering and literature searching services from sources, physically present in its own collection and from sources that can be remotely accessed. Probably the remote sources are already more important than those physically included within its four walls. What, then, is the collection of the library. Does it make any sense to say that it includes the physically present sources but excludes those remotely accessed, even though the latter are used more and are more important to the operations of the library? It does not.

The fact is that, through the capabilities of electronic access, libraries are becoming in a sense "disembodied". This process of disembodiment will continue, at a greatly accelerated pace, if the developments forecast earlier take place, and print on paper publications give way and are eventually completely replaced by electronic publications. A university library of the future, then, need not contain any printed material at all except archival repositories of the printed records of the past and some inspirational/recreational reading material to lend. It can be a room containing a terminal and nothing more. The libraries as we know them are likely to disappear. The full text of articles and books will be available on-line from remote sources, through a variety of technologies : paper and micrographic facsimile, slow scan television, video-disc, as well as computer net-works.

6 SITUATION IN INDIA

Computer age has dawned in India. Information technology, though in embroynic stage is also coming up. Third generation computers such as TDC-312, TDC-361 and TDC-332 have been produced and marketed by ECIL Hyderabad. Private sector has also come into the field. DCM Data Products[11] has entered into collaboration with Control Data Corpn, a leading American firm in computers to manufacture Winchester Disk Drives. The plant with a capacity to manufacture annually 1000 hard disk drives for storing computer data is being set up and it would start production in 1984-85. The Data Products Division has also received a letter of intent for manufacturing computer printers based on its own design. Hindustan Computer Limited and some other firms are also making rapid strides. A number of imported large main-frame computer systems such as IBM/370, DEC/10 and CYBER/170 are also in operation.

Indigenous software development is also growing apace pioneered by the National Centre for Software Development and Computing Techniques. National Informatics Centre, set up by Department of Electronics, among other things, aims at providing hardware and software for maintaining data bases. Word processors, imported as well as produced in increasing quantities based both on indigenous and imported know-how are steadily gaining popularity.

In the field of electrography, after producing manually operated electrophotostatic copying machines, the manufacture of electrofax machines, which use sensitized Zno Paper, has also started in the country based on indigenous technology. Plain paper copiers, though mostly imported in semi-knocked down condition and assembled, but in some cases partly locally manufactured, are freely available. Modi Xerox Ltd and Graphics India Ltd have ambitious plans of producing sophisticated Xerox machines in collaboration with the foreign manufacturers. With regard to micrographics, the National Remote Sensing Agency, Hyderabad has recently brought out a microfiche camera. Micro-filming equipment and microfilm readers are already being indigenously produced.

The tele-communications are not in good shape in India. However, INSAT-IB launched last year has become fully operational and is performing all its designed functions. This satellite can be used for on-line information retreival using both national and international data-bases, if few channels are made available for the purposes. The newly formed Centre[12] for Development of Telematics under the Chairmanship of renowned Satyan Pitroda to develop a modern electronic switching system is likely to vastly improve the tele-communication system in India.

Computers are being used presently for activities such as cataloging, indexing, SDI Services, etc. INSDOC used it for compiling union catalogue of scientific serials and is using it for other projects also. BARC

Bombay has computerised its current awareness service and SDI Services. Tata Institute of Fundamental Research has developed a programme for generating their library catalogue based on annual acquisitions. IIT Madras is converting their Union Catalogue into computer readable form. India has been participating in the International Nuclear Information System. BARC, Bombay is the national input centre. It lays maximum emphasis on the maximum computerisation for bibliographic information. Similarly India has been participating in AGRIS, which is a wholly computerised information system. Data banks are being established in national centres of information in science and technology, medicine, agriculture, defence science, nuclear science, patents, standards, small scale industries, social sciences, etc.

All this advancement, however, has no perceptible impact on the collection development in the university libraries. There is no on-line terminus available and remote access to any data base is not obtainable. The libraries have to depend on the physical availability of materials on the library shelves and thus accessibility is achieved through capital investment.

7 CONCLUSION

Due to the rising costs, shrinking budgets and exponential growth in publications, the university libraries cannot expect to acquire any significant fraction of publications in various fields in which the research is going on, in the universities. There is no hope of any remote access as the terminus for on-line data-bases is a distant cry in India. The dependence on information sources of various National Information Centres will increase. The advances made in information technology, will help in expeditiously locating and supplying the requisite information.

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A CULTURE IN EXILE : A TIBETAN REPOSITORY AT DHARAMSALA

KARMA GYATSHO

1 BIRTH OF LIBRARY OF TIBETAN WORKS AND ARCHIVES (LTWA)

Upto the 1950s, Tibet was peaceful and prosperous. Buddhism had travelled from India to Tibet in the 7th century. Its capital, Lhasa, was famous for the Potala Palace, one of the world's wonders and was to Central Asian culture as Rome and Athens were to European culture. It was venerated as a holy city. The Tibetan Government had authority over both spiritual and temporal matters and Tibet was virtually a self-contained society with minimal involvement in politics outside its borders.

In the late fiftees, in consequence of Chinese invasion of Tibet, His Holiness the Dalai Lama and tens of thousands of followers were forced into exile. Tibetan refugees who came to India brought with them many precious books and religious art, often risking their lives to do so. Life in exile was hard and uncertain and the task of keeping Tibetan culture alive took second place to survival. The long Indian monsoons destroyed many books and paintings and much of what was brought out of Tibet fell into the hands of antique dealers, private collectors and museums all over the world.

Tibet used to contain the huge body of Tibetan literature. There were also large collections of Tibetan books in museums and libraries overseas in London, Brussels, Tokyo, Leningrad, and Ulan Bator; until recently these had not even been catalogued properly. There were a number of public and private collections in Europe and America which had been acquired haphazardly and were not at all representative. This was the situation until the mid-1960s when the Chinese began their Cultural Revolution, a period when they attempted to completely desotry Tibetan culture.

Twenty-five years ago, thousands of Tibetan refugees could only look

forward to a bleak future but today they have succeeded in building a nation in exile and their unique culture and life style has partially survived in new settings throughout the world, thanks to the vision of His Holiness the Dalai Lama. He was profoundly concerned about the plight of these refugees. He thought it vital to preserve and develop the remnants of Tibetan culture, philosophy and art and set up the Library of Tibetan Works and Archives (LTWA) in Dharamsala, his ad-hoc headquarters, a hill station 430 km north of Delhi overlooking the breathtaking Kangra valley.

2 OBJECTIVES, MANAGEMENT AND COLLECTION

The primary objectives of the LTWA were to put together a library of Tibetan texts; to build a museum collection and a reference library of Buddhist and Tibet-related books in European and Asian languages for the benefit of visiting students and scholars; to lecture on Buddhism; to initiate a study programme of classical and modern Tibetan; to film and record the aspects of Tibetan folk culture in danger of extinction; to edit and publish rare Tibetan texts and commission reliable English translations; to produce a scholarly journal on Tibet, and to set up a school of Tibetan arts and craft.

The library is under the direct supervision of the private office of His Holiness the Dalai Lama. Three of the ten governors are representatives of the Government of India. Housed in a striking building that blends traditional Tibetan architecture with modern building techniques, it was desinged by J Taring, a Tibetan, and Romesh Khosla, an Indian architect. His Holiness the Dalai Lama laid the foundation stone on June 11, 1970. A small museum of Tibetan religious art occupies half of the first floor. Its collection goes back to the 10th century. The Dalai Lama himself contributed most of the artifacts from offerings made by Tibetan refugees. The museum features an 8 ft bronze statue of Arya Avalokitesvara with eleven heads and one thousand arms. This statue was built at the order of the 13th Dalai Lama, Thubten Gyatso (1876-1933), for the people of Kyirong in southern Tibet. The museum also possesses a 7 ft statue of Shakyamuni Buddha with a beautiful crown, inlaid with jade and turquoise. The 8th Dalai Lama, Jampel Gyatso (1758-1804), had commissioned it. It is a replica of the famous Shakyamuni Buddha statue in the Lhasa Cathedral. Both belonged to the Kyirong Samdenling monastery.

The centre piece of the museum is a rare three-dimensional wooden mandala of Arya Avalokitesvara, the Bodhisattva of compassion. The Dalai Lamas are believed to be incarnations of this Bodhisattva. The mandala was built for the Library by visiting craftsmen, assisted by the Library's own art school. The collection also includes 250 stupas, the

symbols of the Buddha mind. Each stupa contains the ancient relics of saints and gurus. There are primitive and ancient ritual objects that were discovered in caves. These implements resemble the vajras and bells used in present day Buddhist tantric rituals.

The museum's collection of thangka or scroll paintings includes an old one of Avalokitesvara which the 13th Dalai Lama gave to an American visitor to Tibet; a few years after the Dalai Lama arrived into exile, it was returned to the 14th Dalai Lama. Other thangkas depict the Buddha's life story, or stylized portraits of Indian and Tibetan masters.

Over 50,000 examples of Tibetan literature—many original wood block editions and modern reprints constitute the manuscript section. It has even microfiche and microfilm collections and reading facilities.

The Kangyur and Tengyur are crucial to Tibetan literature. The Kangyur is a translation of the Buddha's own sutras—108 volumes, mostly translated direct from the Pali and Sanskrit originals. The 225 volumes of the Tengyur is a massive anthology of Indian commentaries on the Kangyur along with treatises on Sanskrit grammar, medicine, and even some of the classical plays of Kalidasa which have little to do with Buddhism. Here lie two full sets of the Narthang edition of the Kangyur and Tengyur. Tibetan scholars consider this edition the most authoritative. The collection also has a full set of the Suzuki Foundation's offset reprint of the Peking edition of both Kangyur and a microfiche reprint of the Chone Tengyur. And, rarest of all, there is a handwritten set of the Kangyur, in gold ink, from Phukdrag monastery in western Tibet.

Another rare manuscript is the Tshurphu edition of Rinchen Terzod, a set of Treasure Texts of the Nyingma School of Tibetan Buddhism. These were either recovered by a Nyingma master from a place of concealment where they lay hidden for centuries, or were revealed to a lama in a vision. In fact the department houses collected editions from all four schools of Tibetan Buddhism, the Nyingma Gyudbum (The collected tantras of the Nyingma school) and some of the collected works of the Dalai Lamas, Panchen Lamas, and Sakya Rinpoches,

The LTWA has several thousand legal and administrative documents dating back to the 10th century; government proclamations, edicts, marriage contracts, court decisions, and so on. This collection is one of largest in the world, a valuable source on Tibet's social structure. There are documents from the 10th century bearing the seal of the King of Ngari (western Tibet); official proclamations from the fifth Dalai Lama, a great figure in Tibetan history and papers of Sakya rule in the 12th century.

The photo library has a collection of seven thousand photographs of Tibet, most of which were taken in the first part of this century. Acquired from refugees and other private collections, they give us a rare glimpse into the way of life that has been almost totally wiped out by the aggres-

sors. Here we see buildings that have since been demolished, stone by stone; festivals that are no longer held; local dress no longer worn.

3 ACADEMIC ACTIVITIES

This institution assists students and scholars of Buddhism and Tibetology. It has staff of Tibetan Doctors of Philosophy, geshes and translators. This is a unique service, and it attracts a vast number of people to Dharamsala.

Regular courses on Buddhism are held for eleven months a year and for twelve years Geshe Ngawang Dhargay Rinpoche conducted them. More than five thousand people have been through these courses. Rinpoche teaches in Tibetan and a simultaneous translation in English is provided. The teaching style is traditional and the texts are selected by H H the Dalai Lama himself. Most of them are taken from the Tengyur and are therefore Indian in origin. This reflects the great debt Tibetans owe India—the very source of Buddha's teachings—the Geshe Dhargay always stresses this. The Indian texts are often interpreted in the light of Tibetan commentaries : the interaction between the Tibetan and Indian styles of explanation is a revelation. This is the debt India owes Tibet. The Tibetan commentarial tradition is a living one, for its lineages remain unbroken. This imparts great vigour which makes these texts more accessible to 20th century man. In other words, an important part of Indian thought has been kept alive by Tibetan scholars and meditators and the students of these courses get a direct transmission of this key stone of India's heritage.

A language course stresses colloquial Tibetan but the students also acquire the rudiments of reading classical Tibtean. This complements the Buddhist philosophy course. A remarkable number of people who have taken this course can now read classical Tibetan fluently. Often these classes extend into the fundamentals of Buddhist dialectic.

Today, Tibetan art is threatened with extinction. Only a few masters remain scattered across India in refugee camps. The LTWA has an art school with a seven-year training programme. Made possible by grants from the JDR 3rd Fund, in the initial stage, the Ford Foundation (USA), and the Narita Temple (Japan), the course is headed by Gen Sangay Yeshe and concentrates on the painting of thangkas. Tibetans wood carvers in India are less in number than thangka painters and this institution is now running the wood carving school also.

The LTWA sends field researchers to Tibetan refugee settlements and thousands of hours of interviews with old Tibetans have been recorded. The material ranges from fables and religious tales, to history and social customs. Many of the texts are being translated into English and a series

called the Wisdom of Tibet has been published by George Allen and Unwin. The library itself has so far published over one hundred titles.

This institution is a true bastion of Tibeto-Indian culture, sponsored by international institutions, the Government of India and the Dalai Lama.

CHILDREN AND SCHOOL LIBRARIES— UTILIZATION OF GOVERNMENT NETWORKS

V SRINIVAS REDDY
O BHUVAN KUMAR

1 INTRODUCTION

Libraries are as old as civilization. The simplest definition of a library is a collection of books. The library is a living record of man's progress from stone age to the space age. Through libraries, men communicate their vision and experience from generation to generation. The main function of a library is the collection and preservation of knowledge for its dissemination to all. The libraries have changed the outmoded concept of preserving a large amount of reading material for the sake of preservation only. Library is a social institution charged with the function of preserving and disseminating human culture and civilization contained in the books. Library is a centre which provides facilities for communication necessary for the development of human personality. It serves as a centre for providing recreation which is vital for mental development, for enabling people to utilize their leisure time.

A library provides self-education instead of formal education which is the function of the schools, colleges and universities. Acquainting knowledge is a life-long process and library is the right type of agency for this purpose. Formal schooling is generally limited to specific periods of life whereas the process of self-education never ends and the libraries are the best media for providing the right type of reading materials. Library gives the knowledge to the ignorant and removes darkness through enlightenment.

A well-equipped and well-managed library is the foundation of modern educational structure. The importance of library in education can be appreciated properly only if we try to understand the changing concepts of education of today. Education without library service is like a body

without soul, a vehicle without an engine. Education and library servic are twins and one cannot live apart from the other.

The existing machinery to educate children is quite insufficient. The urban children are being covered by the growing number of private schools, whereas the children in rural areas are just to depend upon the government schools for their education. Problems of rural children are also quite different to those of urban children. The urban children, enjoying the facilities of libraries, exhibitions and other programmes, their primary duty lies in educating themselves. On the other hand, the rural children have to assist their parents in agriculture, or their own family craftmanship for their livelihood paving a way for heavy drop-outs. With such a different scenario of rural and urban children, in providing education to rural children a special treatment is imperative to be given. The children and school libraries are of vital importance to the nation. The children are the future hope of nation, and a nation which ignores its children is unluckiest of all. The child's mind is clean like a slate and whatever influences will be put upon him during his young years he will bear the same impressions forever. Children are to be trained from a very early age to go to the library. The cultivation of library habit among the children's mind in formative stage is of immense importance. The children's library should arrange radio and T V programmes and story hours, puppet shows, book weeks, exhibitions and lectures to attract the children. The library is more than a strange place for books, magazines, pictures, pamphlets, films, records, electronic tapes and transparencies for projectors.

2 AIMS OF CHILDREN AND SCHOOL LIBRARY

The following are the aims :

1 To inculcate among the children the reading habit;
2 to train them in the art of self-education, in order to replace the spoon-feeding habit which is very harmful for intellectual growth of the children;
3 to supplement the knowledge of the students which they acquire in classrooms from their teachers;
4 to help them in the development of the habit of pursuing useful hobbies for which a library is a proper place;
5 to provide information and recreation to the students, by making them understand the usefulness of the library;
6 to ensure proper coordination between the school work and the library use; and
7 to impart social training to the students which is of utmost importance.

The above aims of children and school libraries should be kept in mind

by educators and library authorities while making provision of libraries in schools.

3 FUNCTIONS OF CHILDREN AND SCHOOL LIBRARIES

While emphasising the importance of libraries in schools in India the Mudaliar Commission on Secondary Education (1952-53) observed that "Individual work, the pursuit of group projects, many academic hobbies and co-curricular activities postulate the existence of a good, efficiently function of library. The library may well be regarded as an essential instrument for putting progressive methods into practice". The Commission therefore, recommended that "proper use of a well equipped school library is absolutely essential for the efficient working of every educational institution and for encouraging literary and cultural interests in students, every secondary school should have such a library; class libraries and subject libraries should also be utilized for this purpose."

From kindergarden youngesters should be habituated to go to the school library to hear stories, to browse and read, to borrow books for school work and for recreation and to get their questions answered. Students can also use the school library to find material for reports or to pursue their hobbies and other special interests. For example, if a teacher teaches about Delhi in classroom he should chalk out books and magazines on Delhi from the school library. The library should also provide motion pictures on Delhi life, and its past history so that it cannot be removed from their mind. To a student, a school library should be a place where he can pursue knowledge beyond his classroom and beyond his text books. In a library, a student's curiosity can lead him down countless roads that wind through the world of man's knowledge.

4 CONDITIONS IN INDIA

The above may sound all too ambitious for our Indian conditions. Our system of education is different. We have still to get the library habit into our every day life. India has not yet been able to develop its libraries and library services as the foreign libraries have. No doubt some of the Jawahar Bala Bhavans are doing good service, but it is only a drop in the ocean.

It is an alarming fact that about 95 percent of the students studying in different colleges and schools have not even heard of the different reference books like encyclopaedias, almanacs, gazetteers, dictionaries etc. The students alone are not to be blamed for this ignorance. A large number of teachers are also equally ignorant about the dynamic output of knowledge in their own fields.

Under the present set-up in our education structure the government is

only providing teaching staff with great difficulty and ignoring the importance of library services for the children. Particularly in rural areas the students do not have the general knowledge. The government should take the policy decision to provide the library services as a part of education for children.

A sample survey was conducted by the Union Education Ministry as a part of the international book year activities. The survey says, "out of the 88 schools 76 or 84 percent have regular libraries. But the total number of books in the libraries works out to only 1.5 titles per child. But the average does not reflect the correct position in a majority of schools since eight schools among them received a big donation of books from some source." If these schools are taken aside, the students of the remaining 80 schools have half a book per student, whereas in developed countries every school from the first year onwards has a library and the educational authorities maintain a minimum standard of at least ten books per child for such libraries. From the data collected, the Survey has concluded that, "the text-book is the most commonly used teaching aid in most of the schools in India. The general reading habit is negligible as the schools concentrate only on text-books to the major exclusion of supplementary and general reading materials in school libraries."

Everything is all right in theory, but when it comes to practical implementation, there are numerous hurdles to be crossed because of the more financial commitment on the part of government and individuals to provide good library facilities to children of all ages.

The children libraries should be organized by the public libraries. Because it is too expensive a task, it is not possible for individual and private organizations to provide all the good books for children reading. The growing mind of children is so receptive that they read voraciously almost any book and every book that they come across.

The group concerned with library services for children, at the UNESCO Delhi seminar on "*Public Libraries for Asia*" organized at Delhi in 1955 resolved that; "All Public Libraries should provide services for children and young people as an integral part of their service to the community. Through systems of public libraries, operated by public authorities, free to all without discrimination, the widest service could be given in the most economical way. Such systems should be planned throughout Asia to give coverage to the whole population. Where there are no public libraries at present, many schools do exist through which library services can be made available to children."

5 REQUIREMENTS OF CHILDREN LIBRARY SERVICES

The nature of services that a children library will offer will include the following types of provisions :

1 Books to be circulated for home reading; and
2 books and periodicals to be used within the libraries, provide suitable reading accomodation and conveniences. This may include both reference and lending materials for children to attract their parents to the library.

The experience of children libraries in other countries reveals that all those types of services are provided as a part of the public library services. But care must be taken to locate the service points so as to be easily accessible to children, who should not be required to cover long distances to reach the library. The cooperation between the schools, boys, and girls' clubs and parents' association on one side and the childrens' library on the other will result in better use of children libraries.

Whatever be the size of the children library it should provide sufficient floor space for book shelves and seating, and the staff counter, and group discussions and story hours.

The choice of books for children of different age groups is a most important factor governing the successful functioning of a children library. Children by nature are exceptionally curious to know and learn many things at a time. Specialization of branches of knowledge reflected in the book collections of academic and special libraries is not a virtue here. Books should be simple, well illustrated and light in the treatment of subjects and stories. The collection may be divided into: (i) fictions, (ii) non-fictions (subject books), and (iii) reference books.

Each of these divisions may be divided according to the age of children; (*a*) from 5 to 9 years, and (*b*) from 10 to 14 years. The collection for the first age group will mostly be picture books and simple texts of a few lines to a page in bold and pleasing print, while the older children in the second group will require a little more advanced books written in a style suited to their age. A comprehensive collection of books in a children library will normally contain the following types of books :

1 Picture books, baby books;
2 A B C books for learning the language;
3 fairy tales;
4 legendary and mythological stories;
5 epics and heroic stories;
6 travels, exploration, discovery and geography;
7 biographies;
8 history, local, national and universal;
9 biology, medicine, health and hygiene;
10 sciences, theoretical and fundamental;
11 technology and industries;
12 fine arts;

13 music;
14 sports and games;
15 religion and ethics;
16 fiction, social, historical for older children;
17 literature, poetry, drama, essays etc; and
18 children and magazines.

The most fascinating activity in a children library is the story hour. Children get excited when listening to a story and it creates in them a desire to read more and more. Poetry recitations and loud reading and group music of rhymes and songs in which children participate is another beneficial and popular item of work in a children library.

The ultimate success of a children library depends on the competence of the librarian. It is a specialized job. Temperament and character, love for the children and ability to understand and analyze the child's mind are required to an extra-ordinary extent in the librarian, in addition to the professional attainments.

According to Dr S R Ranganathan, "Librarianship is a noble profession. A librarian derives his joy seeing the dawn of joy in the face of the readers helped by him to find the right book at the right time." That is why a good children librarian is essential in every school library. Then only the children library service will be more effective.

6 CONCLUSIONS

Wherever a new school is being sanctioned, the public or private the government should see that minimum reading material for children is available with the schools which are to be utilized in the children and school libraries after the formal teaching ends in the class room.

The existing government schools are also to be strengthened by sanctioning separate grants to provide reading materials and yearly grants to purchase new material.

There are already branch public libraries in the rural areas within the network of public library system. In urban areas only children libraries are being given emphasis and are fuuctioning with moderate reading material for children. The same facility is to be extended down the channel to rural areas also, for which a division may be specially allotted within the rural branch public library. Where the branch public libraries are not existing the children libraries may be established on priority. The establishment of branch rural public libraries is not possible immediately. So, to start with, the services can be met by starting a mobile public library service including the material for general public and children as well and also the net work, existing under the scheme of Adult Education Programme sponsored by the Central Government can be strengthened by provid-

ing enough teaching materials like casettes, audio visual materials, films and utilized for the benefit of children.

The public relation and information departments of the governments are also in the field of educating the public by exhibiting through the cultural heritage of India, freedom movement struggles, films and the benefits accrued by the various government policies in particular. The same system or network can also be extended for the benefit of children by providing the information and public relation department with material developed suiting the requirement of the children like cartoons, and stories films etc.

COLLECTION DEVELOPMENT IN CHILDREN LIBRARIES

KARUNA H PUROHIT

1 INTRODUCTION

Sir, Isaac Newton, one of the greatest scientists of all times, at the age of seven was holding an egg in both hands tightly, day in and day out to hatch it. His mother told him this was a futile exercise. But he held it for 4-5 days and hatched the egg. Even without knowing how all happens, he did it. This is only an example to highlight the amount of intelligence a child has got. All it needs is proper nourishing to develop it. Here comes the question of feeding information which results in self development which eventually gives the concept of children library.

Every one knows in this space age that library is a treasure of knowledge contained in varied forms like books, journals, micro films, pictures or any other media of communication to suit one's needs. It is needless to mention that in world's modern development these libraries played a major role. Different types of libraries have come into existence like school library, college library, university library and research library, to feed specific informations and the latest one in the series is children libraries. Though in developed nations this came into existence quite some time ago, and proved its necessity and importance, in India this facility is still not easily available to our children.

2 NECESSITY

The term 'child' is applicable to two to twelve years old. Man has got five senses i e seeing, hearing, smelling, touching and tasting from the beginning. An eight days old infant also sees around with the curiosity though his sixth sense of analysing and reasoning is not developed till. As he grows up, his intelligence also grows. Recent developments in child psychology show that a child's salient characteristic is action, beha-

viour and not passive reception. One should make him perform freely the various activities of his life and this should lead in helping, modifying and conditioning the development of all sectors, i e physical, mental and social. Environment has always an effect on the mind of a child. Child's mind is clean like a slate and whatever influence will be put upon him during his young years, he will bear the same impression forever. The cultivation of mind in the formative stage is of immense importance.

As soon as our little infant starts speaking, he has so many questions in his mind to ask. Why is the moon so high? Why do we eat? If parents get angry when asked questions by a child then the child becomes passive and depressed. One has to nurture him at the root stage just like a tender plant. Though mother is a great teacher at this stage it is necessary to feed him with correct facts at the correct age just as he eats. This brings to mind the thought of Khalil Gibran, a great thinker who said :

"Your children are not your children
They are the sons and daughters of life's longing for itself
They come through you but not from you
And though they are with you, yet they belong not to you.
You may give them your love, but not your thoughts
For they have their own thoughts.
You may house their bodies, but not their souls
For their souls dwell in the house of tomorrow which you can not visit not even in your dreams
You may strive to be them but seek not to make them like you."

Therefore not to mould but to cultivate the mental faculty in all sectors, children library is a necessity.

3 HOW TO ORGANISE A CHILDREN LIBRARY

To organise children library, one requires good understanding of child psychology. It will be an ideal if it is arranged according to age group of children. It should be like another house for them. The atmosphere created by a librarian and staff is characterized by friendliness, helpfulness, good humour, approach ability, and quick and sympathetic reaction to a child's show of interest.

The most difficult task of the child librarian is to select reading materials for the library according to age group of the children because he assumes the responsibility for the development of future generation. A child will like to gather facts, ideas and information on a variety of subjects by himself. The librarian should select the material which may provide knowledge and recreation, too. Consideration of the following facts will be helpful for the selection of material :

(i) toys and games;
(ii) normal forms of books with illustrations, photographs etc, exposing ideas in various fields of knowledge;
(iii) descriptive, informative and illustrative books such as biographies, travelogues, etc;
(iv) recreational books;
(v) informational books;
(vi) reference books; and
(vii) ephemeral material.

If the library is meant for two to five years old children, then toys and games are good media for explanation. The toys either mechanical or static on continuous observation induce a mechanical mind in child, who starts asking basic working of such toys. The librarian should be able to explain in a very simple language with actions and demonstration, or in the same library pictorial literature is also important, children's curiosity knows no bounds. They want various types of informations from the stars and planets in the heaven through the kingdom of animals, plants and world of insects, rivers, lakes, ferries which may be living or mechanical. It should carry further in their perception power, enjoyment and ultimate broadening of powers.

These picture books must include various things familiar to children, e g of birds, fruits, vegetables, vehicles etc. Illustrations like pictures, sketches, maps etc, do much to enliven the book. But these illustrations and pictures should be attractive and of projective type. The children even like to read comics, biographies and travel type literature in the concerned language. These comics may depict historical characters, their special qualities etc, e g comics of Maharana Pratap, Jhansi Ki Rani, Chhatrapati Shivaji, Bhakta Dhruv etc, which may give inspiration to our children.

But unfortunately India is suffering from a lack of quality children literature in Indian languages. To help surmount this problem, workshop should be opened at local, state and national level for training authors for writing for children. Authors who write children literature should be encouraged.

Now our child does not want only informative and illustrative books but he wants recreational books, too. He likes to read stories of bravery, fighting and so on. Yet he prefers to read drama as he feels himself that he is one of the characters of drama.

Exhibitions of various types of pictures also play an important role to form good habits and instil discipline in children, e g for personal hygiene the pictures of little child brushing teeth, combing hair, wearing clean clothes etc, mean to give them knowledge of daily routine. Like this a librarian can arrange exhibition of pictures of fruits, vitamins, national heros etc.

Documentary pictures are also useful media to solve the doubt of child

and expound his horizon of curiosity. We can show them in the movie of our different religious festivals and our social customs which will eventually help us to erase casteism in our country and increase national spirit.

Now our child becomes slightly mature to understand things and as his intelligence also increases, he wants to get more knowledge in this vast world. In the modern era, ready reference books such as special encyclopaedia, dictionaries, handbooks, directories Balsahitya Sarv Sangrah etc, are given much importance. He can satisfy his appetite by going through these materials.

Ephemeral materials also form a part of the library which may chiefly consist of pamphlets, folders, plans, posters and prints clipings etc. These materials make the library extremely interesting.

Periodicals in different subjects are also needed for the second group of children library.

For setting up a children library finance should not be a handicap. All the materials should be made available and although it will cost much to build a children library, it will be paid back with premium when our children grow into concerned and knowledgeable citizen.

To organise a children's library is not a 'child's game.' It requires a lot of creative imagination and understanding of the tender minds. The documents should invite the children to go through it. The words of book should not be difficult to understand and should not be very small like ants, large and beautiful type of faces are needed. The jacket, binding and typography of books should be attractive. That is how the children can get pleasure to read the books, which create interests among them. If the library is meant for two to five years old children, then indexing can be in a manner of picturewise, e g a rack of books dealing the history that may be of local, national or international, then there may be a picture of local, national and international hero, e g if the library is situated in Baroda, then the picture of Maharaja Sayajirao, Mahatma Gandhi, and Napolean Bonaparte. If the rack is full of animal books, then there may be a picture of cow.

But if the library is meant for 6 to 12 years old children, then an easier system of classification should be adopted by the librarian that may be according to accession numberwise or classification systemwise.

The rules and regulations of children library should not be very rigid, yet there should be discipline. The library should be open, free for all children without any bar of caste, creed or religion. There should be a nominal guarantee of teacher or guardian to become the member of library. This is how a child from poorest family also can be benefitted.

4 CONCLUSION

I feel that the duties of a children librarian are very difficult to per-

form because he is a basic brick of the building of nation. He creates civilised citizens for the country. He is a kind of psychological teacher as he understands the child's need and tries to satisfy by telling them the stories of national and international heroes, showing pictorial literature and documentary picture. He plays the role of a guide. He is a kind of match maker between various types of materials of library and children. He should be very polite and calm natured individual and he should not get tired of so many questions of children. He inculcates the reading habits among the children and helps them to learn the art of self education.

Now at international level a child is given much importance and United Nation declared 1979 as the International Year of Child. They are giving special aids for the developing countries. The special attention should be devoted to particularly disadvantaged children, e g slum children, abused children, orphaned children etc and special attention is being given for the basic services such as health care, clean water supply, nutrition, education and training. Under the last heading it is hoped that a substantial outlay shall be made available for children library.

At national level, Indian government is also trying to give above facilities to our child as child is called the father of man. He *is the future hope* of nation. The often quoted proverb 'As you sow, so shall you reap' will have a galling effect on the future of nation, if we ignore needs of our children. His developments in all sectors should be given more concentration and India is a democratic country where self education is must and library is a centre from where knowledge can be gained. Particularly in Gujarat state where there are round about 44 children libraries either that may be private or with public libraries Gujarat Government has also started a "Refresher course" for the librarians to help the readers in getting materials for the understanding of new technology such as xeroxing, microfilming, etc. Gujrati writers such as Jivram Joshi, Gijubhai Badheka, Dhanjay Shah, Harish Naik etc, write materials for children in concerned language and can be available from children library. I cannot forget the great writer Oscar Wilde when he says, "The best way to make children good is to make them Happy," and to make them happy, children library can play an important role.

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COLLECTION DEVELOPMENT IN THE LIBRARIES IN GUJARAT

H J UPADHYAYA

1 INTRODUCTION

Collection development involves the selection and acquisition of 'reading materials'. It also involves a well thought out plan to develop existing collection.

In both the cases primary and governing factor is availability of funds, ample space and staff to render service to the users at right time. If these conditions are satisfied we can infer that collection development is potential.

A century before, collection development in most of the libraries used to be the outcome of individual efforts. It was considered to be the domain of an aristocrat or the sign of luxury. It was for very few of the society as the concept of libraries for the masses was absent.

Since many new nations emerged as independent nations after second World War, a need was felt for literate and enlightened democrats. Mass literacy programmes were introduced. For educated mass reading facility through public libraries has become imperative with the result that public libraries are being established in real sense.

2 THE PROBLEM AND WAYS AND MEANS

Problem of collection development in a public library needs proper attention. The needs of the users of public libraries are extremely diverse. The users are the juvenile, the adolescent, the adult, the student, the worker, the businessman, the craftman, the technician, the housewife, the artist and to some degree the professional and the scholars. The coverage of the subject approaches the universal, recreational, informational and to some extent the educational and research need of its readers. For current

and popular materials it has the additional burden of providing duplicate copies of many titles.

Book selection forms the part of collection development. In a large public library, it is the function of library staff, librarian, departmental heads and to some extent subject specialist.

In its search for current publications, public library has to rely upon mostly on publisher's announcement, reviews of magazines, newspapers and select lists published by department from time to time.

The problem of collection development has also to be examined in the context of 'existing collection and its utility'. The existing stock should be developed in such a way so that it can satisfy 'Laws of Library Science' particularly the Law that "Every book must get its reader." Publication of select list; readers' club activities; book reviews, will attract attention of the reader. Exhibitions are very successful devices to attract masses. Exhibition-cum-sale of reading material by publishers has attracted attention of readers.

Poor binding poses obstacle in the development of existing stock. The binding of Indian books is so weak that after circulation of a particular title for a dozen time it needs rebinding. A solution to this problem is to lay down 'standards of binding.'

Problem of collection development needs to be examined in the context of urban vs rural community. Book distribution channels in almost every part of the country except the sourthen part serve primarily the urban community. Bringing books effectively within the reach of rural consumers is one of the outstanding problems still to be solved.

3 THE SYSTEM OF COLLECTION DEVELOPMENT IN GUJARAT STATE

A great deal of work is being done to develop and organise collection development in public libraries of Gujarat State. The object of the collection development has been 'Library service for the community'. The tremendous task undertaken by the Department of Libraries is reflected in its object and actions adopted in this area.

The reader's participation in selection of new arrivals has been aceepted for developing collection to the entire satisfaction of the reader. Readers are in the habit of scanning the book reviews that appear in newspapers and magazines. Instructions are issued from time to time to librarians to give priority to the suggestions offered by readers. The care is also being taken to avoid detective, thrilling and offseen litrature.

3.1 Building of New Collection

Knowing fully well that the libraries have limited source of finance and

book selection, the Department of Libraries has provided them with the sources of selection, such as

1 Publication of select list of books in *Pustakalaya*, a monthly magazine devoted to library activities in Gujarat State.

2 Publication of list of recommended books for different categories of libraries.

3 A select list of books published from 1966 to 1983 is in press. It covers nearly 2,200 entries. It is a list of basic collection useful to newly established libraries in the State as well as in other states of Indian Union and abroad, where Gujrati speaking people are residing. This will prove a very useful tool for collection development.

4 Setting up of Bulk Purchase Committee of learned writers of high repute. This Committee examines books published during the year and recommends them for different catagories of libraries.

Select bibliography with a slant towards children and women literature are published by the Gujarat Library Association with 100% State assistance.

The encouragement towards collection development is also afforded by Government of Gujarat through State Sahitya Academy annual awards for best Gujrati works published during the particular year. Such prize winning books draw attention of the people. Demand for such books is generated. The scheme is very useful in the development of potential collection.

3.2 Special Grant Provision

Under development programme care has been taken to keep a separate provision of book grant. The distribution is Rs, 20,000 for Central Library; Rs 10,100 for District Library; Rs 5,000 for Taluka Library and Rs 1,300 as grant-in-aid to town libraries.

The special grant provision is in addition to the normal budget. It helps to strengthen book collection.

3.3 Raja Rammohun Roy Library Foundation Scheme Participation in Collection Development

Since the inception of the Raja Rammohun Roy Library Foundation, Gujarat takes benifit of the scheme by agreeing to contribute its matching share. During 1982-83 and 1983-84, the State received Rs 3 lakh from Foundation and equal share from the State was added. Books worth Rs 6 lakhs have been distributed to 200 grant-in-aid town libraries. The policy of collection development under Raja Rammohun Roy Library Foundation is to utilize more funds towards grant-in-aid libraries.

.4 A Mini-Survey of User's study

A survey was conducted in 1978 to study users' aptitude. The problem was debated in State Advisory Committee. Special team of experts visited different catagory of libraries to examine users' aptitude. The survey reflected that the majority demand was for fiction books. Religious books including classic, biographies, travels are also in demand. The Sub-Committee of the Survey was in favour of giving more facilities to children in order to form reading habits in them. To facilitate service to children, department issued instructions to spend atleast 20% book grant towards children literature.

3.5 Autonomy in Selection and Purchase of Books

Most of the libraries in Guiarat State are run by voluntary agencies. The management has full autonomy in running library as well as in selection and purchase of reading material. This has enabled the libraries in being prompt and responsive to the reader's anticipated demand.

A good and potential collection presupposes less obstacles. Government of Gujarat has exempted libraries from the procedure of inviting quotations for purchase of books through Gujarat Pustakalaya Sahayak Sahakari Mandal, a co-operative book society. On the other hand, Vikreta Mandal (Publishers and Book-Sellers Association) has passed resolution to offer 10% discount on printed price. The unhealthy competition has almost disappeared in Gujarat. The present system will help in building potential collection.

3.6 Storage of Less used Reading material

In an attempt to strengthen and develop the collection of public libraries, the plight of the bulk of less used and obsolete books has become a problem for accommodating new arrivals. The Department of Libraries is fully aware of the situation. The problem was discussed in Steering Group Meeting met to design VII Five Year Plan. A sum of Rs 10 lakhs has been recommended to establish warehouse for repository collection. Establishment of this unit would relieve the management of public libraries of acute problem of more space and accommodation.

3.7 Collection Development and Copyright Libraries

Under Press and Registration of Book Act, two Central Libraries of the State are receiving books under Copyright Act. Central Libraries prepare list of new arrivals and send it to each other mutually. The titles not received by any of them are obtained by persuasion and pressing upon the defaulting printers. The copyright collection is being kept uptodate.

To sum up the entire problem of collection development in public libraries is systematic and is being supported by the department by publishing select list, bibliographies from time to time. State special grants and Raja Rammohun Roy Library Foundation Scheme have given a vital support in the task of collection development.

COMMUNITY OF READERS AND THEIR LIBRARY NEEDS

A K SINHA

1 The community of readers are none else than the library users who desire to seek information pertaining to their subject interest and knowledge. Such persons usually differ from the ordinary readers in the sense that they are bulk consumers of reading materials and may and may not have definite and specific requirements.

2 The readers' innate urge and quest for obtaining reading materials of their interest and need leads to the establishment of a relationship between such a reader and the library he approaches.

3 The library, earlier considered a store house of books, has since ceased to be merely confined to the concept of an institution storing books. Library's purpose is not limited now to the preservation and protection of the documents collected. The function of library, which has been described as an arsenal of democracy, has indeed changed on account of the fact that besides acquiring reading materials it also tends to bring together the reading materials on the one hand and the reader on the other through a properly organised system.

In this very context it is worth mentioning that the combination of human association and communication governs the tissue of social relationship. This is fundamental to the library as it expresses a functional relationship between the society and the library.

4 With the march of time, as is evident from the history, the libraries of different kind and sizes have grown and developed tremendously on account of alround progress and attainments of mankind, specially those made in the field of education, science, technology and industry leading to both the qualitative and quantitative production of reading and non-reading information materials. In other words, we can say that on account of an organic relationship between the evolution of the library and the rise of literate society has resulted in the development of the agency that would accumulate and make available the records stored and preserved as the

intellectual inheritence of the society. Further, there has been incalculable increase in the number of the library readers belonging to the various age-groups, those coming from educational institutions of different standards, different occupations and professions and those concerned with specific subject fields.

5. The present day library readers mainly belong to the following categories :

(*a*) persons who have interest in general reading;
(*b*) students and teachers interested in materials concerning their curriculum;
(*c*) persons belonging to the field of research and specialisation; and
(*d*) persons associated with the field of technology.

6 Democracy has played an important role in making the people conscious of their rights and privileges. The speedy achievements of mankind and alround progress in various cultural fields have brought some sort of evolutionary changes in the libraries and their practices in addition to an increased demand for library service. It has forced the establishment of various types of libraries such as academic library, public library, research library and special library. These institutions have become the centres of education and are making efforts to satisfy the different types of readers, keeping in view their specific and general requirements.

With the introduction of numerous medias other than reading materials for mass communication in underdeveloped countries like our own has now opened a new vista. In spite of untiring efforts of such nations which were under colonial rule and who have emerged as free nations, it has not been possible, on account of certain limitations, to educate the entire community. Therefore, new thinking has opened new directions of establishing communicative relationship with the neo- and non-literate members of the community whose percentage of population falls on a very high side as compared to the literate ones. Besides, the libraries have an ideal before them of providing full and free opportunity of rendering all possible assistance to their readers.

The academic library is associated with an academic institution imparting instructions in accordance with the prescribed curriculum whereas a public library is open to all the readers irrespective of any consideration of sex, religion age group, status and standard etc. On the other hand a special library caters to the requirements of such class of readers which has a specific interest in a subject.

7 Whatsoever may be the nature of a library, the fact remains that it has to attract the attention of readers, provide all necessary facilities to the reading community for which proper arrangement of reading materials on the shelves and at other appropriate places to correspond to a perfect scheme of classification and cataloguing is a must.

8 Some of the readers are simply concerned with borrowing of books, reading of newspapers and journals in the library, others coming from the field of specialization namely science, technology and industry are endowed with a particular bent of mind. In the case of public libraries there is one big section belonging to the class neo- and non-literates which is not interested in reading materials but has definite urge and craze for information. For this class the non-reading materials, viz, audiovisual materials, including films, radio, T V, pictures, gramophone records and cassette etc, are the main sources.

The librarian or the information scientist has to have a scientific attitude, a compelling but rational curiosity and intellectual outlook enabling him to serve his elientele in a convincing manner. Sometimes he has to assume the responsibility of leadership. There is an expectation on the part of every reader that the library should help and encourage them in using the library to the maximum.

9 On the other hand, with a view to derive maximum benefit from the library, it is imperative on the part of the readers to extend a helping hand to the library and to the members of the library staff by being aware of their own obligations. It is absolutely essential that the readers should establish a close and family relationship with the library they use and the library personnel they come in contact with by cultivating an attitude of being responsive. This will help elimination of shyness and reluctance on their part in approaching the library personnel and in expressing their interest and need. This way they can fully use the available resources under the framework of the rules of the library and its already established healthy conventions. This will further facilitate the library in procuring and making available such items of information required by them as are not already acquired by the library.

Thus the attitude of cooperation between the library readers and the library will not only serve the interest of community of readers but will also go a long way in enriching the library.

10 The remarkable changing condition in the field of scholarship including the scientific investigations on the one hand and enormous production of information materials (including reading as well as non-reading) in different subject fields, presents a challenging situation which calls for rigorous efforts in perfecting the existing methods and evolving new ones in providing suitable services to the readers. It is, therefore, also necessary that the librarians must be in possession of certain intrinsic human qualities in addition to their academic and professional attainments. The sense of dedication and devotion to duty, consciousness of responsibilities and awareness of special perfectness are some of the things needed of a librarian. It is of paramount importance that the library should possess and provide information materials of varied nature to different categories of readers with a view to promote the pleasure and *well-being* of

the readers. It has to be borne in mind that the information materials are nothing but the records of the life of the mankind, his doings, his thinking, his imaginations and above all the civilization.

11 The ideal purpose is not confined merely to the procurement and stacking of the information materials but to serve the community of readers and provide aid and assistance to all those persons coming to the library in search of information. This implies that it is also the pious duty of the librarian to see that whatever books and other reading materials and non-reading materials are acquired in his library, they must be brought to the notice of the readers. The service given to the readers in the library by the library staff is of supreme importance. The idea of introducing 'reader's' service is designed with a view to promoting the process which calls for an understanding and study of the background of the users, their standards, and their psychology which vary from person to person and from category to category. A sympathetic and hospitable service given to the readers for which a great deal of planning is a must, is very helpful in rendering service to the readers. Proper implementation of the design is dependent on efficient handling of information materials, their acquisition at appropriate time, and as already stated their arrangement at strategic places. This is bound to facilitate their maximum and fullest use with a minimum effort on the part of the reader.

12 The relationship between the library and its readers is inseparable and infinite. The librarian is simply a mediator, a match maker between the consumers (readers) and commodities (information material both reading and non-reading). Closest relationship and full co-operation between the three, namely the readers, the library and the library personnel prepares ground for deriving maximum advantage from the temple of learning to the best satisfaction of the readers, a bliss indeed.

COPYRIGHT

ABDUL MAJID BABA

1 INTRODUCTION

Much copying needs to be done in information work to make the service successful. Users of information services usually have little time to go to other libraries to consult books and periodicals and what is more important, they frequently need published information in the laboratory, workshop or office as an essential part of their work.

The Royal Society of London, back in 1948, was of the opinion that the copies of learned papers and books were essential for the advancement of scientific research, and the scientists or the scholars would always be needing copies and reproduction from books and journals for the furtherance of their work. With this end in view, the Royal Society called a Conference of the British publishers of learned publications to sign a '*fair copy declaration*'. This made it possible for non-profit bodies to make copies of articles from the journals for the '*genuine needs*' of the scholars; and the library or the institution making them was exempted from the liability. But they still had the responsibility to see that the person for whom the copy was made is cautioned against its misuse.

2 WHAT IS COPYRIGHT

The word '*Copyright*' is in fact a misnomer. It derives from the first national copyright Act passed in England in 1709 and known as the Statute of Anne. It was this Act which first gave authors the exclusive right to print or authorize the printing of their works. It was solely concerned with the making (or printing) of copies because prior to 1709 the right to print copies had been governed first by the Star Chamber, and subsequently by the Stationers' Company; the law was concerned with nothing else, and although subsequent Acts gradually broadened the range of authors' exclusive rights, the word '*Copyright*' stuck.

The French *droit d'auteur*, meaning the *author's right* is far more appropriate. Copyright gives authors and other creative artists, such as musicians, painters, sculptors, composers, architects and so on the exclusive right to authorize the use of their work in any way.

Since we are here primarily concerned with documents we need not consider copyright in relation to other forms of reproduction, performance, recording and so on, although it need be noted that these other areas of reproduction are of particular importance in their respective fields.

3 INFRINGEMENT AND FAIR DEALING

Copyright in a work will be infringed if the work is copied without the consent of the owner of the copyright. It is infringement of copyright.

Copyright will not be infringed by any fair treatment of any literary, dramatic, musical or artistic work for purposes of research or private study. *Fair* here means that the treatment must be genuine and reasonable for the purpose.

4 FREE COPYING IN THE PAST

Restriction on free copying is not very old phenomenon. Had it existed in the past, library classics would not have come down to us through ages. Copying, on the other hand, was considered as an honourable activity practised by scholars themselves. Mughal Emperor Aurangzeb too used to eke out money for his personal expenses by copying Koran. A copy of Koran written in Arabic by the Emperor has been offered to the Delhi Archives for sale at Rs 50,000. The labour involved in manual transcription was so great that it was difficult to make copies for all who would like to make use of them. The sense of elation of the author on seeing his writing thus reproduced was obvious. Even the invention of mechanical reproduction and movable type of Gutenberg did not make the author conscious that he was being robbed off his intellectual labours and, therefore, no restriction was then contemplated on copying.

5 ORIGIN OF COPYRIGHT

In the realm of copy making we have travelled much now and starting from manual transcription we have reached a stage where copies can be had by inserting a coin in photo copying machines. The quicker and easier means of duplication have given rise to fears among the authors and publishers that they may be deprived of the legitimate reward due to them for their intellectual labours and investments respectively if no restrictions are put on free copying. The state has also accepted their apprehensions and the result is the modern copyright laws, which give an

exclusive right to author and publisher to publish or sell literary, musical and artistic works.

Copyright is essentially a legal safeguard designed to ensure economic reward to both authors and publishers for their intellectual labours and investments respectively. Copyright seeks to achieve this end by giving to authors, who in turn may grant to publishers or other producers, broad right of control over the various modes of reproduction of their works, or at least right to exact payment for their reproduction.

6 PURPOSE OF COPYRIGHT

Copyright has the effect of giving creative works (which means, of course, all works of mind, not only scientific and technical but also those of the imagination) the quality of property that can be bought or hired. It was invented by the society for two main reasons : first, so that the author could control the uses made of his work and therefore be able to demand a reward for such use; and second, so that society should be enabled to have access to his work.

Article 27 of the Universal Declaration of Human Rights, adopted by the General Assembly of the United Nations on 10 December 1948, stated two fundamental premises :

(i) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.

(ii) Everyone has the right to the protection of the moral and material interests resulting from any scientific literary or artistic production of which he is the author.

It is the task of copyright laws to strike the right balance between these two cosiderations.

Copyright is not an absolute right. Because society creates the conditions within which authors work, society not unreasonably expects to havet he right to make limited uses of an author's work without needing his prior permission. Thus the copyright laws of most lands allow *'fair use'*, which is to say, for example, that small extracts from copyright works may be quoted for purposes of private study or research.

On the other hand, because society wishes to encourage the author to *lish his* work so that it is generally available, society ensures that ugh copyright legislation the anthor has sufficient exclusivity of right nable him to give part of that exclusivity to a publisher who will thus justified in investing his time and money in putting the work into print thus making it available to the public. If the publisher had no guar- e that a competitor could not also publish the same work, at the same

time, he would not invest his time and experience in it. The author's right is thus essential if publication is to be secured and society given the opportunity of access which it desires.

The purpose of the copyright is not to deprive the public the use of literary or artistic work but to ensure advancement of human knowledge by its use. Even the U S Constitution empowers the Congress "to promote the progress of Science and useful Arts, by securing for limited Times to Author and inventor the exclusive Right to their respective writings and their discoveries." So also the purpose of the British Copyright Act of 1709 was, the "Encouragement of learning by vesting the copies of printed books in the authors." This progress of science and useful 'Arts' and the "encouragement of learning" are possible only if the intellectual works created by authors and produced by publishers are available to the public freely for use. But as Saxena has put it, ". . . every author cannot be a Tolstoy who gave his books freely to the world; and authors and publishers have also to earn a living." The authors and publishers certainly need some protection so that they are motivated to continue their respective activities which ultimately contribute to the enrichment of human knowledge. The copyright is, therefore, to operate between the two limits: (*a*) that author and publisher are not deprived of their just rewards, and (*b*) the right granted to the author and publisher does not impose unnecessary restrictions on the use of their work.

7 COPYRIGHT LAW

In addition to our own country, let us study some of the countries in which the copyright law has been enacted.

7.1 Copyright in India

The first copyright act in India was the Indian Copyright Act of 1914, based on the British legislation. India signed the Berne Convention in Brussels in 1948 and the Universal Copyright Convention in 1958. The current copyright act was enacted as the Indian Copyright Act of 1957 (14 of 1957). According to this act the period of copyright is the life time of the author and fifty years after his death.

Section 14 of the Indian Copyright Act of 1957 sets out the contents of the author's right and, therefore, it is important for the librarians offering reprographic services etc to get themselves acquainted with it.

7.2 Copyright in UK

England was the first country in the world to pass a copyright act, namely the British Copyright Act of 1709. Before this Act, there existed a number of orders and decrees which gave certain privileges to the publi-

sher, the Stationer's Company. Strictly speaking, these orders and decrees taken collectively could not be termed as a copyright as it is understood today because the interests of author were not protected. The Act of 1709 granted the copyright to the author for a period of 14 years which could be renewed for another 14 years provided the author was still living. Since then many changes in copyright legislation have taken place and now the period of copyright stands as the life-time of the author plus 50 years. There is now no need of formal registration as the copyright comes into operation as soon as the work is published. So also the deposit of copies is not the responsibility of author but that of publisher and the author still enjoys the benefit of copyright legislation even if the copies have not been deposited.

7.3 Copyright in USA

The copyright act in USA was first passed in 1709 and the period of copyright, like its British counterpart, was 14 years which could further be renewed for another 14 years. At present the period of copyright is 28 years which can be further renewed for another 28 years. The copyright act has been revised in 1976. Under the US Copyright Act, two copies of each publication are to be deposited with the Library of Congress and on each publication information about the fact that the publication is copyrighted, its year of copyright and the name of its copyright holder is to appear as is given in the following examples :

> Copyright © 1965, by Academic Press, Inc.
> Copyright © 1975, by Marcel Dekker, Inc.

Most of the copyrighted American publications bear the following warning which appears under the statement of copyright :

> "All rights reserved. No part of this work may be reproduced or utilized in any form or by any means electronic or mechanical, including xeroxgraphy, photocopying, microfilming and recording or by any storage and retrieval system without permission in writing from the publisher."

7.4 Copyright in Russia

In Russia the period of copyright is the life-time of the author and fifteen years after his death.

7.5 Copyright in Pakistan

Pakistan is a signatory of the Berne Convention and the Universal Copyright Convention which were signed by Pakistan in 1948 and 1955

respectively. The Copyright Ordinance of 1962 promulgated by the Government of Pakistan has come into effect since 27th February, 1967. According to this Ordinance, the first owner of the copyright is author and the period of copyright is the life-time of the author and fifty years after his death.

8 INTERNATIONAL COPYRIGT

As individual nations saw the need to protect their authors so that their works could be published for the benefit of all, so in time did they see the need for international copyright protection which would make the works of authors of different nations available to an international society. This was an important concept in the spread of civilization.

Since knowledge knows no barriers and publications having origin in a particular country can be freely imported by any other country there had been efforts to formulate copyright regulations at international level. According to the international copyright convention, any work published anywhere is automatically protected by copyright rules throughout the world or at least in those countries which subscribe to the international copyright convention. Many nations are signatory to either one or both of the following international conventions on copyright :

(*a*) Berne Convention for the protection of literary and artistic works on 9 September 1886, completed at Paris on 4 May 1896, revised at Berlin on 13 November 1908, completed at Berne on 20 March 1941, revised at Rome on 2 June 1928, revised at Brussels on 26 June 1948 and revised at Stockhom on 14 July 1967.

(*b*) Universal Copyright Convention adopted by the intergovernmental copyright conference held at Geneva from 18 August to 6 September 1952.

Since India is a signatory to these international conventions, all Indian works are entitled to copyright protection in all the countries which are members of either of the two conventions. Under the Berne Convention, both published and unpublished works are entitled to automatic protection in all the countries signatory to the Berne Convention without the compliance to any formality whatsoever. But in the countries which are signatory to the Universal Copyright Convention only, it is necessary to affix on all copies of the work a statement showing that the work is copyrighted, the date of its copyright and the name of the copyright holder.

9 ROLE OF UNESCO

To assist publishers in developing countries who may have difficulty in

tracing copyright proprietors in developed countries, from whom they may wish to seek translation or reprint rights, Unesco in 1971 set up within its Paris Headquarters an International Copyright Information Centre. The main functions of the centre are :

(i) To collect copyright information on books that can be made available to developing countries on terms as favourable to them as possible;
(ii) to arrange for the transfer to developing countries of rights ceded by copyright holders;
(iii) to help in the development of simple model forms of contracts for translation, reprint and other rights required by developing countries;
(iv) to study ways and means of securing copyright and other rights where foreign currency is not available; and
(v) to promote arrangements for the adaptation and publication of works, particularly those of a technical and educational nature.

In May 1971, as a first step, Unesco invited Member states to give particulars of any reproduction, translation or adaptation rights they might require, giving priority to scientific and technical books, including text books, in view of their importance for economic development. At the same time Member states which were prepared to offer copyright concessions or facilities were also asked to give Unesco particulars.

National clearing-houses, designed to assist publishers in developing countries in securing translation and reprint rights in cases where they encounter difficulty, have been set up by the publisher's organizations in France, the Federal Republic of Germany, Japan, the United Kingdom and the United States. These clearing-houses also act as agents for the Unesco International Copyright Information Centre where this seems appropriate.

10 COPYRIGHT AND LIBRARIES

It has never been the intention of any librarian that the author should be robbed off his intellectual labours and the publisher not compensated for the investment he makes. On the other hand, the interest of a librarian has always been that the reading material and its contents are disseminated. In fact, a librarian exists for promoting the use of reading materials and he takes every possible step to achieve this end. Libraries play a vital role to popularise the books and thus indirectly motivate many readers to purchase their own copies. The libraries also make a significant contribution to the book promotion by providing quick, accurate and exhaustive bibliographic information about books. It has

been observed that libraries have an important role in the book world. A role which is directly expressed in economic terms. And then a book is not a commodity which is produced for economic gains only. It is produced to add to the existing knowledge of the community. It is produced to give new interpretation to the existing human thought. A book can help in the extension of knowledge or its new interpretation if it is used. A book which is not used has no existence whatsoever. So the use of books is not the concern of librarian only. The author and publisher are as much interested in it. Author's professional satisfaction, his prestige and standing among his colleagues also depends on the use of his book. In view of all this, authors and publishers should be less enthusiastic about taxing the reading by 'public lending rights' and for putting unwarranted restrictions on the reproduction of their works. They should repose their trust in the judgement of librarian for protecting their interests.

11 COPYRIGHT, COPYING AND LIBRARIES

In a library all the facilities are provided to the readers so that they may make the best use of the available reading material. Copying by the library is one of such facilities. Providing copies of the reading material available in the library through reprographic service does not, therefore, violate copyright if the copyiug is fairly used. Making of one copy of a part of book or of an article from a journal for a reader for his private use certainly constitutes a fair use. Libraries have more arguments in their favour. 90 percent of the copying is done from journals, often highly specialized journals, and here again it is a guess that many of these journals do exist because libraries are their main subscribers. Often subscription rates are so high that a royalty for unlawful copying must have been included. Many journals are also subsidized from public funds.

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(i) Both libraries must be of non-profit making kind or make their books available to the public free of charge;
(ii) no declaration is needed;
(iii) only one copy may be supplied unless the first has been lost or destroyed;
(iv) payment must be made for the copy by the receiving library; and
(v) no restriction on the extent of the copy.

As far as the provisions of the British Copyright Act are concerned, they apply to copying of copyright material as follows:

(i) No infringement of copyright can arise unless a substantial part of the copyright is involved.

(ii) Even where a substantial part is involved, such copying may be permissible as fair dealing provided:

(*a*) it is for the purpose of research and private study;
(*b*) it is for the purpose of published criticism and review.

No attempt has been made to define what is a *'substantial part'* which of course, depends on (*a*) the length of the work as a whole, and (*b*) the importance of the extract in relation to the work as a whole. A simple criterion to determine whether a particular copying constitutes a *'substantial'* or *'unfair dealing'* is to find if such copying has deprived the copyright holder the benefit of the sale of one more copy.

(iii) An unpublished document of which a copy is kept in a public institution where it is open to public inspection, provided it is more than one hundred years old and the author has been dead for fifty years.

(iv) Published works, the period of copyright protection of which has expired.

(v) Any work, provided the permission of the copyright holder has been obtained.

In the United States, the joint committee on fair use in photocopying has recommended as follows :

(i) The making of a single copy by a library is a direct and natural extension of traditional library service.

(ii) Such service, employing modern copying methods, has become essential.

(iii) The present demand can be satisfied without inflicting measurable damage on publishers and copyright owners.

(v) Improved copying processes will not materially effect the demand for single-copy library duplication for research.

12 SUGGESTIONS

In view of the opinions of various, bodies, as mentioned above, it is in order to make a reproduction of an article from a learned periodical for the scientist or the teacher, or the scholar, who declares that it is needed for his personal use. More than one copy of an article is not permissible, and neither more than one article from the same journal for the same person. Parts of a book, or a chapter, can also be similarly reproduced, but not the complete book, unless permission has been secured from the copyright holder. Unpublished dissertations deposited in the university, or the library should not be reproduced unless authorised by the scholar or the university with whom the copyright rests. In India dissertations are sub-

mitted to the library by the university and not by the candidate and therefore, it is not very clear whether the copyright holder is the university or the candidate.

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These libraries also insist on the personal signature of the person making the request.

The Indian libraries and documentation centres while drafting the requisition form for reprographic services can also make a provision of such declaration from the person requesting for the copies.

It is also safe not to undertake the reproduction of such documents as passports, legal documents, licences, currency notes, etc.

It is also advisable not to reproduce secret or confidential documents unless authorised by competent authority. But there should be no problem to copy university degrees, diplomas, marks sheets, testimonials etc.

13 ISSUE FOR DISCUSSION

To collect declarations from readers and to keep accounts of the charges for photocopies etc, not only takes up the librarian's valuable time but also irritates readers and it is debatable whether or not it does much to protect the interests of the copyright holder.

14 CONCLUSION

In conclusion I must say that indiscriminate copying of documents may lead to many unpleasant legal complications, which one must know how to avoid. The reproduction of copyrighted materials is beset with legal pitfalls and, therefore, it is important for a librarian to know the copyright law and its implications before he undertakes the reproduction of any work. The acquaintance with copyright law is not simple because the field of copyright law is both wide and complex. Also copyright law is dynamic and goes on changing through fresh legislations and new interpretations in the courts of law. Copyright is not a natural right but an artificial creation, which in English law has been built up irregularly to

deal with particular contingencies. Copyright was and still is intended to protect the author against use of his labours publicly by others for profit without sharing those profits with the author.

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Dr Lotika Varadarajan had her early education in Shillong. Subsequent studies took her to Bangkok, Delhi, and Newnham College, Cambridge. She obtained her Ph.D. through the Heras Institute, University of Bombay. On completion of the Memoirs of Francois Martin, she has been the recipient of the prestigious Homi Bhaba Fellowship to continue her studies on seventeenth century India. Widely travelled within the country as also in Europe and the East, Dr Lotika Varadarajan crystallizes her experiences in the scholarship she brings to bear on her work.

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TRENDS IN BOOK PRICES AND PERIODICAL SUBSCRIPTION RATES

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1 INTRODUCTION

The role of finance is significant in organisation and administration of college library. Purchase of books, journals, furniture, stationery and other accessories of library depend upon finance. Each library is provided funds. Due to abnormal rise in the price of books and journals and other accessories one individual library is unable to procure all these. Rise in price of books and journals is a matter that concerns all library managers. It is known from experience that the prices of books and journals are rising abnormally every year. It is no doubt that the librarian is mostly concerned with the book prices and journal subscription rates while preparing budget for library. The publication explosion is resulting in such a huge volume of literature that it is not possible for any library to procure all required books and journals. The information seeker of today may not get his all required information immediately as he is to consult several related documents. So selective information may be helpful for him. Journal literature is a major constituent of publication explosion. A huge number of scientific and technical journals are coming out every year. The number of books of different disciplines are also not less. The rising cost of published materials is posing a serious problem to users of books and journals. In view of this the users have to be selective. As mentioned earlier, the knowledge of prices becomes useful for allocating funds to different disciplines of an institution.

The following information helps librarian to distribute budget to different departments.

(i) subject-wise average price of books and journals;
(ii) rise in average prices of books and journals over the years;
(iii) relative price of books in English published in India, UK and USA.

2 IMPACT OF PRICE RISE

Price rise in books and journals affects library budget as it is inelastic. In view of this the librarian is compelled to curtail some useful journals. Take for example one journal *Chemical Abstracts*. Due to abnormal rise in the cost of this journal a librarian has to cut other important journals as well as books, particularly of the concerned department as the whole budget is distributed to all departments for books and journals. So this rising cost of that journal affects purchase of required books and journals as the major amount is spent on this.

3 SCOPE

This article indicates the price trends as derived from a case study covering the books and journals specially in engineering subjects shown in Table 1. This study is based on the records of Regional Engineering

Table 1 : Showing Cost Study of the Journals

Sl No	*Name of the journal*	*Cost in 1973*	*Cost in 1983*	*Increase (—times)*
1	Concrete Journal of Cement and Concrete Association	£ 3.00	£ 22.00	7.3
2	Metallurgical Transaction	$ 64.00	$ 199.00	3.1
3.	Transaction of Iron and Steel Institute, Japan	$ 35.00	$ 146.25	4.2
4	Trans ASME	$ 189.50	$ 546.00	2.8
5	Canadian Geotechnical Journal	$ 15.00	$ 52.00	3.4
6	Presstressed Concrete Institute Journal	$ 13.50	$ 23.00	1.7
7	Canadian Journal of Chemical Engineers	$ 40.50	$ 80.00	1.9
8	International Journal of Production Research	£ 21.00	£ 74.00	3.5
9	Inst of Electrical Engineers (Proceeding)	£ 59.00	£ 325.00	5.5
10	Engineering Index	$ 315.00	$ 725.00	2.3

College Library, Rourkela covering the period from 1973 to 1983. The study reveals that the increase in the cost of books and journals is abnormal, which is due to upward price trend only and does not depend on the increase in volume.

Rising cost of books and periodicals leads to various serious situations posed before the scientific and technical libraries about continuing or dropping less used periodicals from the subscription list. The volume of scientific and technical information as presented by the world scientific and technical literature increased more than 10 times between 1930 and 1960. Obviously must of the scientists and engineers confine to reading key journals and hustle through some reference and abstract journals for writting paper or report. It saves their time.

4 SUGGESTIONS

1 There should be some restriction to subscribe current journals. Some abstract journals should be procured which will be more helpful for readers such as *Chemical Abstracts*, *Physics Abstracts* etc, and also journals in which titles of various journals are found like *Current Contents* (USA), *Journals Contents* (England), *Science Citation Index* (USA). From this the librarian also can know the address and can procure the xerox or reprint copy of an article demanded by clientele which is not available in his library.

2 Union catalogue of the holding of periodicals is suggested which will be very much helpful for libraries as one library can not purchase all journals.

3 Yearly increase of library recurring grant is essential considering rise in the cost of books and periodicals. Grant should be increased in proportion to the rise in cost of periodicals.

4 SDI service (Selective Dissemination of Information Service) is suggested for scientific and technical libraries.

Factors responsible for increase in the prices are :

(i) increase in the cost of stationaries required for printing;
(ii) devaluation of currencies;
(iii) the margin of profit.

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