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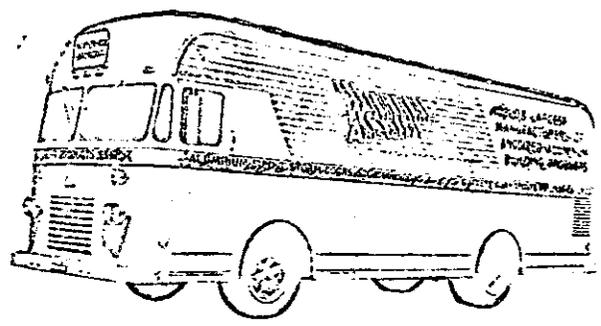
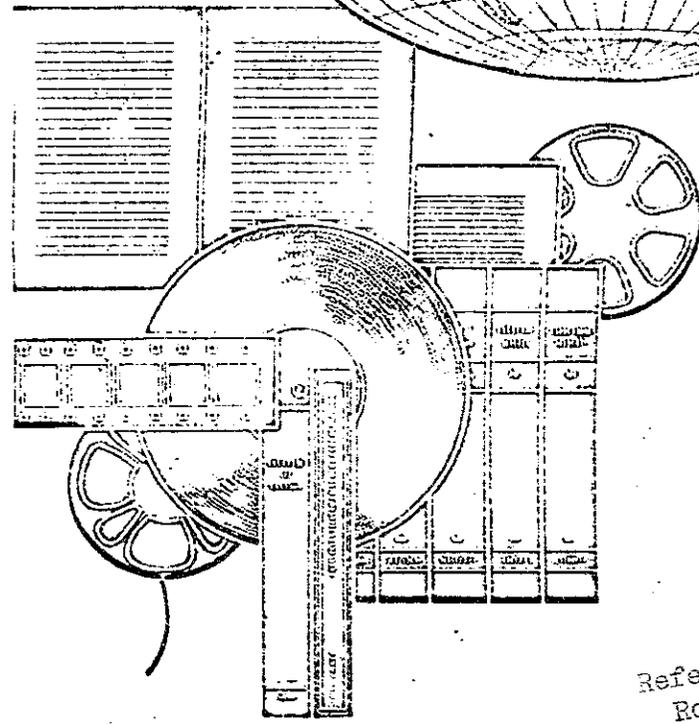
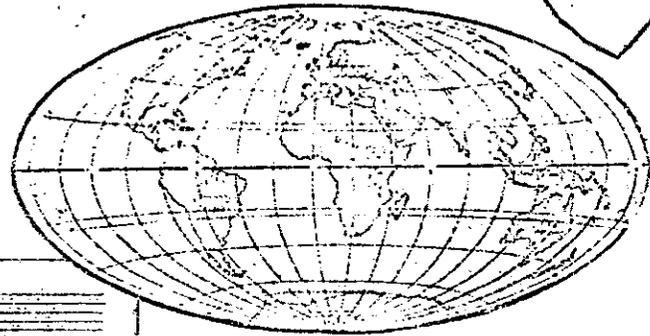
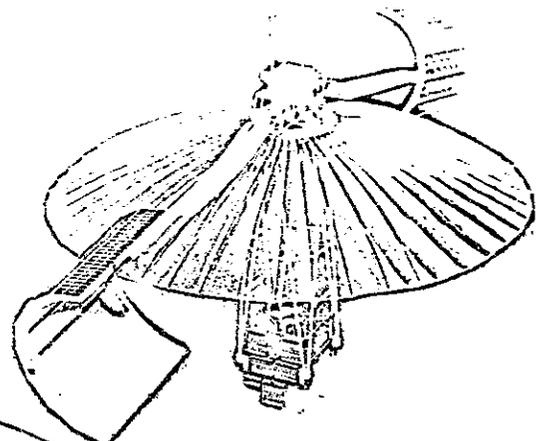
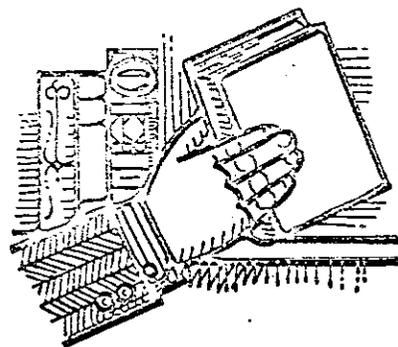
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THE COMMUNICATION OF INFORMATION
AND KNOWLEDGE - TOOL FOR DEVELOPMENT

Contract No. AID/csd-1538
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PREFACE

The Agency for International Development in its proposal of a "Reform of the U.S. Economic Assistance Program" has indicated that research and innovation will be important elements of future assistance programs. The proposal goes on to say that the research capability of developing countries will be strengthened through support for research institutions and development of needed personnel. Innovative applications of technology and the resources of worldwide networks of information of priority concern to the LDCs will be employed in responding to their basic human needs.

Research institutions in the United States will be encouraged to direct their attention to the critical problems of the developing countries. AID has recognized the need to review and evaluate the research generated by its own programs thus far. On a less sophisticated level the Agency will address itself to the advancement of the LDCs through non-formal education means. Inherent in all these areas of development is the need for effective information transfer at varying levels. The AID document does not spell out how these research goals are to be achieved nor the basic problems which must be resolved in the process.

The present paper reflects the long experience of the American Library Association (ALA) and its activities in the United States and abroad related to the communication of information. Beginning with printed materials in a variety of formats, libraries many years ago

added audiovisual materials to their means of information transfer. The information explosion of the post World War II years has meant that librarians and information specialists have joined with the technicians to solve growing information collection, storage, retrieval and transfer problems through automation, computers and other new technological innovations. ALA's Information Science Division (ISAD) has been active in this field since 1966. New vistas of national and international communication are now opening up that should provide an important spin-off for the less developed countries. To make this possible a great deal of preliminary hard work to develop the basic information infrastructure must be carried out by the LDCs and those who wish to help them.

Significant research cannot be done by undereducated people. High level education cannot be achieved without recourse to recorded information and knowledge. Whether collections of informational materials are called libraries, information centers, documentation centers or resource centers is of little significance. Without them, however, the people charged with doing the research required to push their country's development forward, will not reach the level of education to know what information they need from world data banks. Broad-based education cannot be built on print-outs from satellite-communicated information.

In the following pages the information transfer problems of the developing countries will be considered and some recommendations made for assistance by AID and other funding agencies. It would seem appropriate that some programs be undertaken on a consortium basis.

The United States has long been sharing its expertise and know-how. With the technological developments of the last years there are now new dimensions to the technical assistance which may be made available to the LDCs so that the communication of information and knowldege may be used as an effective tool for development.

Eleanor Mitchell
March 1972

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SUMMARY

Limited assistance in the development of library and information services in the less developed countries has been provided over the years by various funding agencies in a sporadic manner, largely in the course of institutional development. LDC priority requests have not included assistance in developing an information management capability, as officials have been slow to understand the correlation between access to well-organized and serviced collections of informational materials and quality education, research capability, their own decision making and country development. Development agencies have not insisted that technical assistance include this type of aid, in part because it was not requested, but also because they have not recognized its fundamental role.

An effective information infrastructure is the backbone of the educational system. It is essential to the transfer of scientific and technical information using the new technologies now available. It cannot be superimposed quickly on a country far down the development scale. It must be developed through a systemic approach, a national planning of information services. A pilot multilateral program for information infrastructure development is proposed.

Essential to such a program is the preparation of qualified personnel who know what informational materials are needed, how they should be organized, controlled and stored and how the information can best be retrieved and disseminated to those who need it. A regional program for the upgrading of librarians and information specialists in Latin America is outlined.

Cooperative programs have done much to standardize procedures and tools and eliminate unnecessary duplication of work. Particularly important for the transfer of information using the new technologies is the compatibility of transfer systems and the hardware involved.

Development assistance is needed in Latin America to bring into existence a long contemplated core list of books for Latin American university libraries (Project LILIBU). Cooperative cataloging projects are under way in Argentina and contemplated in Colombia and Costa Rica. These groups should be assisted in developing a coordinated program which could be even further extended. U.S. cooperative programs using computer techniques should be visited.

Progress is being made in the development of national, regional and international information transfer networks. In the field of medicine the program of the Pan American Health Organization's Regional Library of Medicine based at the Escola Paulista de Medicina in São Paulo is spreading out through Latin America. The Inter-American Institute of Agricultural Sciences of the OAS is providing leadership in the communication of agricultural sciences information. Other developing international networks concerned with agriculture are AGLINET and AGRIS.

Satellite communication has already been established between the Scientific Documentation Center of the National Council of Scientific and Technological Research (CNICT) in Buenos Aires and the John Crerar Library in Chicago. A world science information system, UNISIST, is in the active planning stage. Its promoters have stressed the need for strong scientific library systems, indexing, abstracting and translation

services, information analysis and data evaluation centers to undergird such a system.

The utilization of AID generated research related to the needs, substance and methodology of technical assistance will itself require research and evaluation, if it is to be made useful to those who need it within AID, in the research institutes, universities and AID grantees and contractors, in AID Missions, in the LDCs and other development agencies. A survey should be conducted to identify the extent of holdings, and state of organization of information pertinent to LDC development.

To provide a pattern for a master plan for the utilization of this information, it may be expedient to select one or more defined fields, such as family planning and population control, for special research in the form of a pilot test information transfer project. Specialized resource centers might be called upon to produce magnetic tapes giving complete subject input data. A printed bibliography arranged by broad subject categories could be prepared centrally. Research would have to be carried out in selected LDCs to study their information infrastructure and readiness to receive by satellite and disseminate within country needed information.

Non-formal education programs reach down to the millions of people in the LDCs who are illiterate or barely have functional literacy. It has been found that radio programs directed to rural areas or the urban uneducated require supplementary printed, illustrated informational materials. People can be taught to read and write, but without reading materials at their level of comprehension related to their interests, they sink back into illiteracy. There is suggested a prototype program

for the central production under contract of functional literacy materials in English, to serve as models for adaptation and translation in the LDCs.

One of the greatest unexploited and unresearched means of non-formal education may be the communication of information and knowledge in the places where every day in the LDCs millions of man hours are spent in waiting. Information, largely visual with simple texts, mechanized or rotated by hand, pertinent to the waiting places should be developed and set up in hospitals and clinics, banks, ministries, etc. General information should be made available in public places such as railway and bus depots, airports and in the street. Material for both adults and children should be fairly closely juxtaposed.

The public library or information center has been and will continue to be one of the most useful media of non-formal education, where those who read and are motivated to look for answers to their questions, or seek recreational reading may go. In the LDCs where books are in short supply, and most people cannot afford to buy them, they must be shared. In some communities it will be practical to establish libraries in schools, which may be used after school hours for public library services.

Television adds a new dimension to the communication of information and knowledge in the less developed countries through closed circuit programs within classrooms or through public broadcasting. An "open education" program directed to acquiring credits toward certificates, diplomas or degrees such as those first forerunner programs in the United States in 1957 could be developed. A review of the videotapes of television

courses developed over the years in the United States should be undertaken and new courses monitored to see whether some might be used in the LDCs with dubbing of local languages or serve as an invaluable resource for local adaptation and production. Educational television, however, does not reduce the need for informational materials, print and nonprint. It is a tool and not a substitute for reading. It is part of the information infrastructure which every LDC must develop.

CHAPTER I

PAST AS PROLOGUE

Through surveys, printed reports and first-hand observation the American Library Association has over the years watched and been involved in the inevitably slow process of library and information service development in the LDCs. The United States Government, national and international funding agencies and the foundations have assisted in this process in the course of institutional development, collection building and training of personnel, as attention has focused here and there on some special need. It is fairly safe to say that U.S. library developmental assistance has done more than that of any other country to bring LDC information services up to their present state, inadequate though they are. The scatter-shot approach of traditional assistance has made a positive contribution to country development, even when not part of a well-conceived national plan. This pattern, however, has not brought the developing world face to face with the information transfer problems and needs of the 70's and the years to come.

There has been little recognition by LDC officials of the relation between access to informational materials, print or nonprint, and economic and social development. Hence they have rarely included in priority requests for technical assistance the development of information services. The funding agencies, for their part, have not insisted that such help be incorporated in technical assistance grants and loans.¹ Nevertheless, one

¹See Analysis of Loans to Developing Countries for Education, 1962-1971, International Development Association, International Bank for Reconstruction and Development. Appendix A.

of the telling differences between the developed and developing countries is the degree of availability and use of well-organized collections of recorded knowledge and informational materials. These resources are essential for education and for decision making in the key problem areas of development--medicine, health, nutrition, family planning, agriculture, industry, etc. Research in any field requires knowledge of what has been done and is being done elsewhere in the world.

It is no mere coincidence that in the developed countries there are vast numbers of libraries at all levels abounding with books, periodicals and other informational materials in all media serving as an adjunct to education of high quality. The scientific and technological developments of the last fifty years, which have brought even greater economic prosperity to these countries, could not have been achieved without the tools of research, largely books and periodicals. Highly specialized documentation collections of great sophistication have been evolved to serve the research community. On the other hand, in the less developed countries informational materials are lacking or inadequate and the quality of education is below standard. Literacy levels and economic levels are low. The message as to information tools and their relation to development comes over clearly.

The worldwide information explosion which daily enlarges the gulf between developed and developing worlds makes it imperative that a review be conducted of the means of information transfer within the less developed countries and from the developed countries. To talk about the

transfer of scientific and technological information using the new technologies now available is out of the question unless the developing country has a responsive information system or systems backed up by basic print and nonprint sources. There must be an information infrastructure² capable of receptivity.

²Human resources, informational tools, organizational resources.

CHAPTER II
INFORMATION MANAGEMENT CAPABILITY

The inadequacies of library and information transfer services in the LDCs have been freshly corroborated by AID Mission Directors in response to an ALA letter³ calling attention to the urgency of facilitating the sharing, both nationally and internationally, of information necessary for economic and social development. National indicators of information management capability suggested to them were:

1. Readiness of library services and information transfer systems in host country to assist decision making in development areas.
2. Existence of scientific and technical documentation centers.

National center.

Special subject-related centers (agriculture, medicine, public health, population, etc.)

3. Indigenous research.
4. Information management through:

Government information infrastructure.

Coordination of institutional holdings, both print and nonprint, through "union lists" of materials.

Nationwide school and public library program/service.

Village information centers.

Network of any of the above.

Adequately trained librarians, information specialists, subject specialists to develop an information management capability.

³January 12, 1972.

Replies indicate that some countries are so far down the development scale that a complete information infrastructure would have to be fashioned to permit tapping into information supplied by the new technologies. Other countries are much further along and have certain of the national indicators suggested, though as yet not coordinated.

Technical assistance agencies should include in their development programs for the LDCs the establishing or strengthening of effective information transfer systems at all levels of need and comprehension, if they are to achieve development goals. These systems are needed for scientists and technologists; for government, business and professional leaders; as supplements to the formal graded school system; for the early leavers, and for those individuals who may never attend school.

LDC officials in all likelihood will have to be persuaded as to the socio-economic benefits to be derived from expanded information services, particularly when it means enlarging their budgets and possibly eliminating other programs. It is doubtful that without nudging, such services will appear in priority requests for assistance.

It is usually the scientific and technological community in the LDCs that first recognizes the need for up-to-date informational materials and demands the technology and information transfer. They must have the important tools of research in their fields to get on with their job. There are now new ways of supplementing these materials. The doctor in Seoul does not need to have duplicated in Korea the U.S. National Library of Medicine to solve his diagnostic problems, but new theories may have been developed in other countries, not yet reported in books, which could help him, if he could speedily tap into this information.

There now exists the technological hardware that can store, select, retrieve and transmit by voice, video, digit, facsimile and then print out information within a developing country or transfer it from an advanced country by satellite. These new computer controlled mechanisms may reduce to some extent the size of information materials collections needed in specialized libraries and documentation centers, but they do not eliminate the need for the centers. Once the hardware is in place, needed information can speedily be relayed from a variety of decentralized information centers to those who need it.

Much groundwork and research needs to be done in selecting from the mass of available material in the fields of priority concern to the LDCs that material which is most needed and most suitable. Material should be evaluated by knowledgeable specialists in the developed countries as the LDCs may not have back up information to make critical judgments.

To establish the information interface between the developed and developing countries it must be reiterated that the information infrastructure in the LDCs must be readied for this transfer. The American Library Association has observed that the developing countries in general have not yet learned how to effectively organize knowledge for use and that professional help in this area is needed. It should be recognized that it takes time and money to build up the necessary infrastructure and therefore it must be done in phased programs on a priority basis.

The Organization for Economic Co-Operation and Development (OECD) has had a leadership role in pointing up the importance of information exchange. In a recent report of an Ad Hoc Group on Scientific and Technical Information they have said:

"Perhaps the most important event of the next decade will be the recognition of the true value of information--the right information, reliable and relevant to our needs, available in a useful form to all those who need it."⁴

⁴"Information for a changing society; some policy consideration."
Paris, OECD, 1971, p. 17.

CHAPTER III

THE SYSTEMIC APPROACH TO LIBRARY AND INFORMATION SERVICES DEVELOPMENT

The library and information services in the United States and other advanced countries have developed without benefit of national planning and national legislation. The libraries of the ancient world were established to conserve the cultural heritage of the people. In Medieval Times in Europe it was the monastic libraries which served as the "storehouses of knowledge." The libraries of the great universities linked recorded knowledge to education, but only for a small elite. The concept of service was unknown.

The public library movement was to have its first development in the United States. In the early years books were scarce and had to be shared, as is true in the LDCs today. A public library was opened in Boston as early as 1653 and the first circulating library was chartered in Philadelphia in 1732. It was in the late 19th century, however, that the movement began to flourish, aided by the philanthropy of Andrew Carnegie. At this time there developed the philosophy of library service, the idea of putting knowledge to work, that was to be one of the great contributions of the United States to library development around the world. It was much later that school library service was initiated. Industrial development helped spawn the special library movement.

It has been only with the proliferation of libraries and library information services of all types that planning, cooperative programs, centralized services and legislation, national and state, have come into

being. It was only in 1971 that the National Commission on Libraries and Information Science was formally established.

In many of the LDCs the vestiges of outdated practices still hang on. Too often libraries have been viewed as a means of preserving a record of the past, not as part of the country's working tools to move the country forward. University libraries are limited only to a chosen few. All too frequently students reach the university without having acquired the reading habit. Unless from well-to-do families, it is unlikely that they have grown up with books in their homes and hands. School libraries are few and far between or non-existent and public library service with few exceptions is limited or even totally lacking.

The LDCs do not need to and cannot afford to proceed with library and information services developed in the haphazard fashion evolved over centuries in the now advanced countries. Development needs are too great and resources--monetary, human, informational materials--in too short supply to work in any way other than on a basis of national planning. This means planning within the context of educational planning, in turn a part of overall national planning.

In reporting on a UNESCO Meeting of Experts on the National Planning of Documentation and Library Services in Africa, held in Kampala, Uganda in 1970, E. Max Broome of the Department of Education and Science, London, remarked,

"It is one thing to adumbrate a policy at international level; quite another to secure its acceptance by individual States. Initially the task is essentially

one of proselytism--the theory has to be forcefully advanced and publicized and converts secured."⁵

Unesco has done much to promote the theory of planning of library and documentation services through its regional meetings and publications. The fact remains, however, that very little has actually been accomplished as yet in this important area.

AID's participation in such a program therefore stands out as something of a beacon in the worldwide scene. Since 1967 the Agency has been involved in the development of library services on a basis of national planning in Vietnam. The systemic approach which is being carried out within the Mission's program of educational technical assistance is already showing results. By the end of 1971, library programs had been developed at 8 elementary schools, 50 secondary schools, 14 normal schools, 5 universities and The National Library. From 1969-1971 participant training in the United States was arranged for 17 grantees, while in-service training has been carried out in Vietnam. Core collections for schools have been identified and library science materials have been developed in the Vietnamese language.

The program has been planned and directed by John L. Hafenrichter, Library Science Advisor on the AID staff. His article, "Library Development in Developing Countries: A Systemic Approach,"⁶ describes the requirements of such a program and indicates some of the problems. He estimates that "under optimum circumstances a decade is

⁵"The organization and planning of library development in Africa," Unesco bulletin for libraries, vol. XXX, no. 5, September - October 1971, p. 246.

⁶Libraries in International Development, Issue 43, February 1972, pp. 1-2 (Appendix B).

required" to realize the full impact on education and overall national development. Basically this is due to the time it takes to train overseas, successively, the individuals who will assume the leadership roles in the infrastructure. The human resources provide the key. Only when there are a sufficient number of professionally qualified librarians, information specialists, documentalists and communications specialists can the information services of a developing country be fully organized and developed to backstop other national economic and social development efforts.

CHAPTER IV

DEVELOPING THE HUMAN RESOURCES

Although great advances have been made in general education in the developing countries over the years, standards still lag far behind those of the advanced countries. In some LDCs university schooling would be more rightly classed at our high school level.

Library education has reflected general national educational levels as well as the lack of prestige of the library profession. The training of librarians has usually been at the post-secondary school level, sometimes within a university program, but not necessarily. Courses vary in length from one to five years while many short-term courses and seminars provide more limited training. The number of LDCs which offer Master's level programs is few indeed. There is doubt that these programs can be equated with the Master's programs in the United States.

This means that most LDCs must turn to the advanced countries to provide top level training for librarians, documentalists, information and communications specialists. Most library schools in the United States are now schools of library and information sciences, whether or not they are so named. It is questionable whether any developing country is now able to prepare those who must supervise the sophisticated methods of information transfer made possible by the new technological developments of recent years, to say nothing of the ones in gestation and to come. Library and information training centers throughout the developing world must be strengthened and upgraded.

No postgraduate library school yet exists in Latin America, though several countries are working toward this goal. Advanced courses have been approved in some cases. It was with the urgent need to promote the upgrading of library training in Latin America that the American Library Association prepared a draft proposal of a ten-year development plan.⁷

Such a project could be carried out with the support of a consortium of funding agencies (a list of possible cooperating agencies is appended). The Graduate School of Library Science of the University of Texas has expressed an interest in serving as the potential center for the training of Latin American library school personnel proposed. The outstanding Latin American bibliographical collections of the University would make the School a very appropriate base for such a program.

Similar programs could be worked out for other regional areas where there is a common language or where English can be used.

⁷"Postgraduate Library Education for Latin America, Implications for Economic and Social Development." (Appendix C)

CHAPTER V

A PILOT MULTILATERAL PROGRAM FOR INFORMATION INFRASTRUCTURE DEVELOPMENT

It is obvious that no national or international funding agency could address itself to the development in a short space of time of the information infrastructure in any substantial number of developing countries. It is believed, however, that considerable progress could be made by providing guidelines through a pilot program.

It is proposed that there be developed a program for multi-lateral action by which the United States and other developed countries would make a concerted effort through various national and international agencies, in both the public and private sector, to raise the information management capability in at least two countries of varying degrees of economic and social development. A multinational, multidisciplinary survey-planning team working with a host country counterpart team would determine the actual state of information transfer capability of a selected country, evaluate it and plan a five-year phased program of development, employing such foreign professionals as would be needed, initiating human resources development within the country and abroad, and assisting in the development and control of basic information collections.

The ultimate goal of the program would be to raise the information management capability of the selected countries to a level which would provide a backstop for quality education, supply the basic tools of research in the areas of priority importance, and make possible the utilization of

the scientific and technological developments of the present and the future, as essential elements of the country's economic and social development.

It is recommended that at least one of these countries be one where fundamental ingredients of the infrastructure are already established, even though not coordinated. It might be one which could serve as a pilot country where there would be tested the transfer of development research information generated by AID and contractors and other U.S. and international agencies as well as that of other developed countries.

Such a program should be documented photographically in the developing country throughout. Statistics should be kept and gross national product related to information transfer development. An effectively carried out phased program would be expected to show measurable progress at the end of each phase.

The American Library Association would be interested in developing and administering a program of this nature. A draft proposal and outline of suggested procedures for carrying out such a multilateral program with a list of potential cooperating agencies is provided in Appendix D.

CHAPTER VI
REGIONAL COOPERATIVE PROGRAMS

A good omen for the developing countries has been their increased participation in recent years in international and regional meetings and programs. This has grown steadily since the foundation of Unesco in 1947, for one of that organization's basic programs was the encouragement of international professional associations. People have indeed found that sitting down together to discuss their common substantive problems has been mutually beneficial. From these meetings develop cooperative programs-- regional or international--standardization of methods and tools and now, vital to the development of computer-based information transfer systems and other new technologies, the compatibility of systems of information recording.

To mention only a few of the burgeoning regional programs in the library and informational field in the LDCs will suggest the type of cooperation which is under way--of utmost importance where professionalism still has a long way to go. All these programs need financial assistance.

Project LILIBU

For some years the OAS has backed the idea of a centralized list of books suitable for Latin American university libraries, an invaluable selection guide, as most university libraries in Latin America lack the basic selection tools. Even when trying to spend wisely their meager budgets, libraries are frequently at the mercy of local booksellers,

buying what is offered to them, not necessarily what they most urgently need.

In 1966 a group of U.S. and Latin American librarians met in San José Porúa, Mexico, to discuss Project LILIBU (Lista de Libros para Bibliotecas Universitarias). This beginning was made possible by a subvention from the Council on Library Resources, Inc. Since then the project has been the subject of numerous conversations with university and library association authorities.

A feasibility study was conducted in Colombia in 1971 by the OAS. Now new seed money is available for the project. In connection with International Book Year 1972 the ALA will administer a grant from Unesco, for a meeting, probably to be held in Colombia, where an Inter-American group will study the recent feasibility report and technical studies made possible by a grant to the OAS from the Sears Roebuck Foundation.

The actual preparation of the basic list of some 75,000 titles, which is expected to take approximately three years, will require outside funding estimated to be \$225,000. It is one of the most urgent bibliographic tools needed to upgrade Latin American university library collections.

Cooperative Cataloging

Libraries in the advanced countries have long realized the inefficiency of original cataloging of the same title in libraries all over the country. In the United States the Library of Congress printed cards eliminated much of this costly duplication of staff time. In

addition commercial firms have taken this up and have printed and sold their own cards. Some commercial outfits, as well as nonprofit cooperative programs, have gone a step further and libraries can now receive books cataloged, labeled, with catalog cards, book or transaction cards, according to the circulation system used in the individual library, completely ready to be placed on shelves.

The developing countries are moving toward cooperative cataloging schemes. In Buenos Aires, the Instituto Bibliotecológico of the University of Buenos Aires is centrally cataloging books for the various faculty libraries of the University and for other universities in Buenos Aires. The University of Antioquia in Medellín, Colombia, has proposed a central cataloging project for the various universities in that city. It has been suggested to the University of Costa Rica that they assume responsibility for cataloging for the universities of Central America.

The Medellín project with some assistance might be extended to the rest of Colombia and then to other Pacto Andino countries, linking up later perhaps with Buenos Aires and Central America. The format of the MARC (Machine Readable Catalog) program of the Library of Congress, which now supplies to subscribing libraries and networks, bibliographic data for monograph titles in machine-readable language on magnetic tape should be used. The MARC tapes were originally limited to U.S. current titles in English, then included all English language monographs cataloged at the Library. Experimentation with foreign language titles is underway.

A Latin American project could expand to Puerto Rico and perhaps Spain. Project LILIBU would contribute to such a cooperative cataloging .

effort. The people involved in these actual and potential programs should be brought together to discuss possible wider cooperation. They should at some time together visit the United States to study the MARC operation and visit such centers as the Ohio College Library Center (OCLC) in Columbus where a computerized regional library system was initiated in June 1971. An off-line system for cataloging card production serves some 50 colleges and universities in Ohio, Indiana and, on a trial basis, the University of Pittsburgh. Out of this will grow a union catalog of resources in these academic libraries. It will also serve as a communications system through which inter-library loans may be requested. The OCLC computer has stored the cataloging data from the Library of Congress MARC tapes for all of the 200,000 English language books published since 1969.

Another program the Latin Americans should see is the New England Library Network (NELINET), located in Wellesley, Massachusetts, a computer based regional library technical processing center which supplies custom catalog cards, spine labels and book labels from MARC tapes to member libraries of the New England State Universities. Many other services and activities are being developed through this program.

One is a tie-in with OCLC in a six-month test program initiated January 1, at Dartmouth College in Hanover, New Hampshire. The computer linkage will be made possible by a single telephone line. An operator sitting in the Baker Library at a cathode-ray-tube computer terminal with a typewriter-like keyboard will be able to ask the Xerox Sigma 5 computer in OCLC, 725 miles away, for desired cataloging entries for new

acquisitions. Information can be requested by the Library of Congress identification number, by typing the first three letters of the author's name and the first three letters of the first word of the book's title (disregarding articles), or by giving the first three letters of the first word and the first letters of the next three words of the title. The desired catalog information can be flashed in seconds to Dartmouth's cathode-ray-tube "screen," and by a signal, catalog cards for the title can be requested of OCLC. When desired catalog records are not available in OCLC, Dartmouth can communicate its cataloging, and cards will be printed in Columbus for them, at the same time enlarging the OCLC data base.

Where professionals from the developing countries are ready to take part in challenging new programs that might be applied to their areas, they should be encouraged to do so. The research capability will be furthered by such programs and it is hoped development assistance funding can be provided.

CHAPTER VII

INFORMATION TRANSFER NETWORKS - NATIONAL, REGIONAL, INTERNATIONAL

Significant progress is being made in some of the more advanced LDCs in developing national information transfer networks, some of which are already working into regional systems. These in turn should be capable of hitching into the international scientific and technological networks which are either already functioning or on the drawing boards. Information transferability depends on compatibility of format. Libraries and networks must employ a standard international information format, if they are to make the necessary linkages.

National governments are beginning to recognize the need for scientific and technical coordination. Recently the Government of Colombia established a joint Senate and House Committee of the National Congress for the Promotion of Science and Technology. They consider fundamental to the progress of their country the development of scientific and technological information transfer mechanisms. The Colombian Institute of Sciences (COLCIENCIAS) has been working for some time on the idea of a network of scientific and technological centers and plans to send a group of potential scientific documentation experts to the United States for training in information sciences. They have been somewhat reluctant, however, to recognize the amount of preliminary spadework that has to be done. They have been in a hurry to have a network without having very much to communicate, but they have been wise to begin the blueprint early in the game.

Colombia has achieved more of an information infrastructure, so basic to country development, than many of the LDCs. This is due thanks to the long-range technical assistance programs of the OAS, the initial ten-year funding by the Rockefeller Foundation of the Inter-American Library School in Medellín, and the substantial educational development assistance of AID, recently with the cooperation of the American Library Association. There is much still to be done, but Colombia is one of the most promising of the LDCs and with a minimum of assistance in the next years will move forward very fast in the information communication and transfer fields tied to country development.

PAHO Regional Library of Medicine

In Brazil a regional information network in the biomedical fields is in operation and is already of great significance to the Latin American countries. The Pan American Health Organization created in January 1969 the PAHO Regional Library of Medicine at the Escola Paulista de Medicina in São Paulo as an international center to handle biomedical communications. Funds have come from various national and foreign sources. AID contributed annually to the project through 1970. With the Agency's increased emphasis on information transfer, it is hoped that further assistance can be given.

The RLM has developed an active program of cooperation to share resources to meet the needs of researchers and educators. Similar programs are being developed in Argentina, Chile and Venezuela. The creation of national documentation and scientific information centers within each of the countries, which RLM is promoting, will lead to an eventual interna-

tional network of service centers for the biomedical communities throughout the Continent.

Through photoduplication of research articles, reference services, provision of bibliographies, training of personnel and exchange of duplicate issues of scientific journals to libraries throughout Latin America, the RLM has in three years already made an important contribution. When requests cannot be answered from their own resources and those of other biomedical libraries in the São Paulo area, they are forwarded to the U.S. National Library of Medicine for retrieval by the computer-based Medical Literature Analysis and Retrieval Systems (MEDLARS).

Materials are now sent through the mails, but in time this biomedical information transfer will be a matter of seconds via satellite. The RLM and the related centers should be assisted in readying themselves for that day.

Inter American Institute of Agricultural Sciences

In the field of agriculture various libraries, agricultural institutes, international agricultural organizations and centers are active in cooperative programs and regional and international networks. In 1942 the OAS established the Inter-American Institute of Agricultural Sciences in Turrialba, Costa Rica, which over the years has provided leadership throughout the member States in the development of agricultural sciences information communication. It has provided a reference and photoduplication service, bibliographical assistance and, perhaps most importantly, has been the site of in-service training for agricultural librarians in Latin America. FAO and AID have provided fellowships for participants.

The IIAS activities in recent years have been decentralized as the OAS has sponsored agricultural centers in other parts of Latin America to more effectively deal with varying geographical and climatic conditions. The Centro de Documentación sobre Investigación y Enseñanza Superior Agropecuaria of the Southern Zone, for example, was created through an agreement between the Faculty of Agronomy and Veterinary Science of the University of Buenos and the southern branch of the IIAS.

The FAO has sponsored a study to explore the possibility of converting the library of the Institute in Turrialba into a regional automated documentation center servicing principally the Central American countries.

An article on "International Cooperation in Agricultural Libraries of Developing Countries"⁸ recently published by the American Library Association, reports on further agricultural activities in Latin America and other parts of the world.

AGLINET

The International Association of Agricultural Librarians and Documentalists (IAALD), whose headquarters are in Holland, held a symposium at FAO in Rome November 2-4, 1971, on an Agricultural Libraries Network (AGLINET). This network of libraries and information centers is primarily concerned with document delivery.

AGRIS

A worldwide system for the collection, analysis and dissemination

⁸Libraries in International Development, Issue 36, July 1971, pp. 1-3. Appendix E.

of agricultural sciences information has been made imperative by the estimated annual production of nearly a quarter of a million journal articles in this field. A preliminary plan for an International Information System for the Agricultural Sciences and Technology (AGRIS) has been tentatively approved by FAO (November 1971), to which our own National Agricultural Library would provide an input of 125,000 machine-readable bibliographic records annually.

It is now impractical to think of assembling in one library or documentation center all existing information in a field. As previously mentioned, information transfer techniques now permit instant two-way communication between terminals in widely separated information centers.

The limited implementation of AGRIS on an operational basis is tentatively scheduled for 1973.. It will be organized at two levels. Level One will be a rapid, comprehensive index of the world's literature in all the fields falling within FAO's responsibility. Some six specialized institutions will be responsible for providing the "input, clearing-house services and various output products and services." Under Level One magnetic tapes will be produced, giving complete input data in a form compatible with international standards. A printed bibliography arranged by broad subject categories will be prepared centrally. The use of the tapes and reprographic services will be handled in a decentralized fashion. Level Two will consist of "a network of specialized information and analysis centers with responsibility for in-depth indexing and analysis centers with responsibility for particular subject areas."

National Council of Scientific and Technological Research (CNICT), Argentina

This body, also known as the National Research Council, was established in 1958 to promote, coordinate and guide scientific research. The CNICT has established or collaborated in the creation of various scientific agencies among which is the Scientific Documentation Center. The Center maintains an information network which services through telex eight national universities and the major scientific and technical agencies. It is connected by the communications satellite system in Balcarce, Province of Buenos Aires, with the John Crerar Library in Chicago. Through the National Academy of Sciences (NAS) it is making arrangements to connect with the European Documentation Center. It is reported to be servicing approximately 10,000 requests annually.

UNISIST

The world's outstanding leaders in science and technology and the library information, documentation and communication fields are pooling their knowledge of universal needs and their know-how in an extraordinary program to establish a world science information system, UNISIST. Conversations on this ambitious program have been under way for several years. The Unesco study published in 1971, "UNISIST: Synopsis of the Feasibility Study on a World Science Information System,"⁹ provided an important background document for the meeting held at Unesco October 4-9, 1971.

The UNISIST program had its origin in the impelling problems caused by the information explosion and concomitant lag in scientific and technological information transfer, linguistic barriers to communication,

⁹An article based on this report, "A World Science Information System," was published in Libraries in International Development, Issue 39, October 1971, pp. 1-3. Appendix F.

the newly recognized interdisciplinary nature of environmental and other problems, and the overriding need to pool resources.

The leaders of the UNISIST program have underlined the need for strong scientific library systems as the "essential component of scientific information transfer," and have recommended the strengthening of libraries, indexing, abstracting and translation services, information analysis and data evaluation centers.

For the LDCs to participate in what will eventually be a sophisticated communications system the importance of building up their information infrastructure to receptivity levels cannot be overemphasized.

Many groups and committees, national and international, are now actively working on various aspects of what is recognized will be a long-range program to develop an integrated, international network of information services in all fields of science, using the most advanced computer technology via satellite. It will be of immense importance ultimately to all the nations of the world.

CHAPTER VIII

MULTIDIRECTIONAL TRANSFER OF DEVELOPMENT INFORMATION THROUGH AID

The long years of developmental assistance by AID and its predecessor agencies have produced a mass of information on the needs, substance and methodology of technical assistance. In addition research important to LDC development has been carried out by institutions holding 211(d) grants and GTS and other research contracts.

The speedy communication of essential information from this enormous quantity of data to the people who need it may not be feasible using traditional forms of information storage and retrieval. Those who should make use of it are widely scattered--within the Agency itself, in the research institutes, universities and other AID grantees and contractors, in AID Missions, in the LDCs and other development agencies here and abroad.

The United States has provided the major share of developmental assistance since World War II. It would therefore seem appropriate for this country, and specifically AID, to take the lead in organizing the transfer of development information, using the new technologies, whereby stored information can be made available instantaneously by multidirectional communication from central and decentralized locations.

Research should be conducted first within AID and then radiating out from the Agency to its contractors, grantees and to resource centers and agencies concerned with developmental fields to explore the extent of

holdings and state of organization of information pertinent to LDC development. Such fields would include agriculture and food production, public health and nutrition, population and family planning, education, community development and economic planning. As the whole range of vital development information is so extensive, it may prove expedient to select one or more defined fields such as family planning and population control, considered by AID to be the most pressing problems of the developing world, for special research in the form of pilot test information transfer projects.

Research would have to be done in selected LDCs to review their present needs in the fields chosen, their information holdings, the state of their information infrastructure, and readiness to receive and use stored information, utilizing the new technologies, eventually by satellite transfer, and disseminating the data within the country.

Compatibility of hardware now in use or to be acquired by the selected resource centers and that of the LDC information receiving centers is essential to the information transfer. The development of the pilot information transfer project might follow in general the pattern proposed for the worldwide agricultural sciences information storage and dissemination program (AGRIS).¹⁰ This would involve the production by the selected specialized resource centers of magnetic tapes giving complete input data, a centrally prepared printed bibliography arranged by broad subject categories, and eventually an information network using the most appropriate hardware.

¹⁰See Chapter VII, Information Transfer Networks - National, Regional, International.

The pilot research project would provide a pattern for use in the transfer of other development information, and at its completion would be a functional network of immediate use to the LDCs. Persons involved in the preparation of the overall master plan and the pilot project would, in addition to AID officials, include librarians, information specialists, documentalists, subject specialists, hardware experts and computer technicians. The program would be carried out in phases by teams composed of various elements of the specialist group. Personnel working on the LDC studies would form a team with host country counterparts.

CHAPTER IX

A PROTOTYPE PROGRAM FOR FUNCTIONAL LITERACY MATERIALS PRODUCTION

The staggering problems conjured up by the very thought of worldwide literacy problems tend to make the funding agencies write off the many millions of people in the world who even in the 1970's are unable to read and write. It seems far simpler to settle for assistance at the higher education and opinion molders level.

It is perfectly true that people can live, work at simple tasks, follow oral instructions in more complicated work, support themselves and their families--often only at subsistence levels--and enjoy life to a degree without being able to read. In primitive cultures people are limited to what they see, hear, feel, smell and taste. Their forbears may have lived for centuries with only an oral tradition of communication. As country development moves along, however, radio programming is stepped up. It is not an unfamiliar sight to see barefoot Indians in the Andes walking along out-of-the-way trails listening to small transistor radios. One wonders what they are thinking as they listen to news of a more sophisticated world than their own limited one or look up to watch high flying jet liners cross their skies. Will they be satisfied always to be written off as those who don't need more education, who don't need to read?

After radio comes television. It will be a long time before individuals in the back country will own television sets, but efforts will be made sooner or later to have at least one set in a village center.

New possibilities for education through television will open up, including the teaching of reading. All literacy programs, however, will be held back unless there are reading materials. Individuals can be taught to read, but if they have nothing to read at their own level of comprehension that is pertinent to their lives, they will quickly lapse back into illiteracy, even in a period of three months. These reading materials are needed not just to retain a newly acquired skill. They must be kept coming for a lifetime of continued information need.

Unesco has done much to encourage literacy programs and has developed pilot projects in five countries around the world. The Organization of American States (OAS) a number of years ago published a series of 60-some simple illustrated booklets or "cartillas" in the languages of Latin America, dealing with health, nutrition, agricultural subjects, education, etc., which have been printed and reprinted many times over and distributed in thousands of copies. Regrettably they are now out of print and no new titles have been published in the series for some years. Texts are still valid today and the program should be continued.

AID and its predecessor agencies have had a long record of assisting in the production of materials for new readers. A first workshop for Latin America was held in 1952. The Communications Media Division of the Foreign Operations Administration began in 1954 a concerted worldwide program under which thousands of pamphlets were produced in various regional Communications Media Centers. Samples were sent to Washington, logged and reported to overseas Missions. Through this mechanism materials were exchanged between Missions and adapted for local use. In certain areas

AID is at the present time continuing to work on adult literacy problems.

Through many other programs in the developing countries, sometimes locally generated, sometimes with external assistance, materials for new literates are being produced, but never enough to satisfy the need, either in number of titles or copies.

The impetus of International Book Year 1972 is focusing attention on book needs at all levels. India, the world's second most populous country, is considering a major program of providing reading materials in great quantity. Dr. Malcolm Adiseshiah, former Deputy Director-General of Unesco and now Director of India's Institute for Development Studies, has called attention to the vital role of books in promoting the quality of life in his country. The goal of the national program he has proposed would provide "144 pages per person per year to be distributed by some 70,000 libraries of various kinds and acquired by each of India's 120 million families with one or more literates." The program would start with an average of six books and increase to twelve per year. By the end of the 1970's the program would require an investment of some 0.3 per cent of the country's GNP. Although these materials are not reported to be designed specifically for new literates, the boost in the reading potential of India would be of tremendous significance.

It is believed that there is a way to move literacy programs forward in an accelerated manner and on a worldwide basis. It is not necessary that each developing country struggle to produce from scratch the basic reading material on the topics of priority concern to them.

It is proposed that there be produced in prototype form functional literacy pamphlets and other materials in English in inexpensive editions which would be distributed to literacy materials development centers throughout the developing world.

For English-speaking countries where the vocabulary of the United States is acceptable, plastic plates might be sent for local printing, in order to avoid shipping costs. For non-English-speaking countries only a limited number of the pamphlets would be needed. They would serve as a model to be translated into the vernacular, adapted to local cultural patterns and climatic conditions and published there in quantity. Illustrations would be grouped rather than scattered through the prototype text to simplify the substitution of locally suitable pictures. Human beings in the prototype models could be drawn as stick figures. Where common languages and cultural patterns are similar in adjacent countries, or in whole regions, the adapted materials might be produced in one regional center.

A mechanism for the production of these prototype materials exists. The Books for the People Fund, Inc., was established in 1961 under the aegis of the OAS as a nonprofit organization. The Fund was "created in recognition of the fundamental necessity of books and other educational materials and techniques in extending knowledge and skills basic to the economic and social progress of nations and to their scientific and technical development." Although the program was inspired by the overwhelming literacy and informational needs of Latin America, where millions of people speak two languages, and a centrally based

editing and production program was thought to be highly desirable, the Fund, in fact, has no geographical limitation. Its Certificate of Incorporation provides wide latitude in the production and distribution of needed educational materials for children, young people and new adult literates. The Fund's program includes the conduct of related research, experimentation, bibliographic compilation and training programs for the production and use of these materials.

In Fiscal 1962 AID became interested in the possibility of contributing substantially to the program of the Books for the People Fund and set aside \$90,000 for the purpose. The potential interest of the Ford Foundation held up the commitment of the funds. By the time the Foundation made its decision to continue its concentration on higher education, AID had quite naturally had to use the earmarked funds elsewhere. It is understood that they were used to start the ROCAP textbook program.

It is suggested that AID consider the prototype program for literacy and postliteracy materials production outlined, as a centralized means of generating great quantities of materials so essential for use in non-formal education programs in the LDCs. At the same time materials developed under the earlier AID programs, those produced by other government agencies, industry, national, international or private organizations in the U.S. or elsewhere, including the LDCs should be gathered, studied and evaluated by specialists for possible utilization. Some publications might be usable for middle reading levels, while others would have to be reduced to functional literacy levels. These materials would form a

research and reference Materials Resource Center. The training of personnel to produce materials for the lower reading levels requires conceptual approaches which would be equally useful in preparing textual materials needed for radio and television.

AID has been encouraging the preparation in Latin America of what has been termed the "5¢ textbook." Plans call for them to be printed on newsprint the size of a tabloid and inserted in newspapers. When removed they could be folded once to notebook size. Some "textbooks" would cover a variety of subjects of interest to 1st and 2nd grade children. Others addressed to the secondary school level would deal with science and the social sciences. The text could be prepared centrally and printed from plastic matrixes, copies of which could be sent to other cities and even other countries having the same language, thus solving the always perplexing problem of distribution. Such a program has merit for all the LDCs in expanding education through simple, inexpensive supplementary reading materials.

CHAPTER X

NON-FORMAL EDUCATION AND THE COMMUNICATION OF INFORMATION

While scientific and technological developments have increased our knowledge exponentially at a vertiginous rate, the unschooled, unlettered citizen of the developing countries does not have access to even basic knowledge of the world around him needed for every day life. Even in the most remote regions he may listen to radio programs at least once a day reporting on a world beyond his comprehension. He may hear talk of voyages to the moon, but he cannot imagine that the earth is round, for he sees it flat.

In all parts of the developing world attempts are being made by one means or another to bring education to the 2 out of 3 adults who have never gone to school and to the young who have dropped out or who have no experience with formal education. By way of example, two outstanding non-formal education programs in the Western Hemisphere should be mentioned. They suggest that one of the most important accomplishments in the world may be the invention of the cheap transistor radio. Development funding agencies should help extend the reach of these programs and see how they can be emulated in Asia and Africa.

Radio Sutatenza

Colombia is considered by many to be the leading center of radio-
phonic schools in the world. Missionaries and leaders from Asian and African countries visit Bogotá each year to learn about Acción Cultural

Popular and the activities of Radio Sutatenza, which is part of the larger program. Representatives of the U.S. Office of Education made a study of it in 1963 to see if such a program might be useful in Alaska.

In 1947 the Rev. José Joaquín Salcedo initiated Radio Sutatenza as an integrated fundamental education program for adult peasants in the rural areas. Since then daily courses have been broadcast on health, literacy, arithmetic, agriculture and religion. In the beginning closed-circuit transistor radios were given out on which broadcasts from Radio Sutatenza alone could be heard. In November 1963 they changed from 4 to 18 hours of daily broadcasts to offer the peasants greater cultural opportunities.

Instruction usually reaches the peasants in their little mud huts, where the member of the family with the greatest amount of education, perhaps only an ability to read and write the letters of the alphabet, directs the classes as they come over the radio. Examinations are given at the end of the school term. Radio instruction is supplemented by the distribution of illustrated textbooks, pamphlets, library books and a newspaper. It has been found that in addition to the radio and printed materials personal contacts with the peasants to further explain the lessons are of vital importance. It is reported that through these programs people have undergone a change of focus of life, rather than a change in standard of living.

ICECU

In 1964 an association of German professors together with the German government initiated in San José, Costa Rica, the Instituto

Centroamericano de Extension de la Cultura (ICECU). Like Radio Sutatenza, it began as a radio program directed principally to rural audiences. The half hour daily program, "Escuela para Todos" (School for All) is now broadcast over 44 stations from Central America to millions of people in the area bounded by the northern part of Mexico and the northern part of South America. Twice a week the program takes the form of a lecture. Sometimes it is a dialogue. All cover a wide variety of topics pertinent to the lives of the listeners.

An office in Germany created by ICECU is now preparing with the help of teachers and scientists a thematic plan of basic, indispensable knowledge. ICECU has gathered over the years an extraordinary file of more than 70,000 questions sent in by their listeners. The Institute would be happy to put this archive at the disposition of researchers working out a plan for fundamental education. What is it that the untutored man does not know, wants to know, should know? For example, among the most frequent queries have been questions such as: Why does the mule have no offspring? Of what substance is glass made? Why don't rocks talk? Why do some birds sing and others not? Why have they not sent the astronauts back to the moon? Here the question behind the query is interesting to know. Did the astronauts see something terrible there?

Like Radio Sutatenza, ICECU has found that simple, profusely illustrated, large type printed materials are desirable to supplement the radio programs. Their "Libro Almanaque" has now reached an edition of 300,000 copies and is sought as far away as Bolivia, Ecuador and

Colombia. Ecuador is reprinting the almanac from offset plates and the other two countries are considering doing the same. ICECU estimates that every third family in Costa Rica has bought the almanac and many have sought the earlier editions to complete their collection. Printed on inexpensive paper in large editions, it was sold in 1971 for U.S. \$.40, with U.S. \$.10 to U.S. \$.16 going as a commission to vendors. It may take these new book owners who are just struggling to understand the printed word a year to work through the almanac, but for the first time many of them have between the two paper covers more collected information than has ever come into their lives before.

In addition to the almanac, ICECU has published a number of simple booklets with the help of a grant from the Sears Roebuck Foundation and the Franklin Book Programs, Inc. These have included such titles as "Animales del Mundo," "Cure sus Animales," "Manual para el Carpintero," and "Manual del Ebanista." ICECU has had more difficulty in selling these publications, hence editions have had to be smaller.

The Institute has branched out into slides and films and coordinated texts, as well as collections of small fold-out illustrated "murals" for use by schools and new adult literates. These cover such topics as geography, sound, the phases of the moon, space trips, gasoline engines, teeth, blood, iron, the metamorphosis of larva to butterfly, etc.

German industrialists have made it possible for ICECU to have a Museo Técnico Ambulante, which will travel through Costa Rica and eventually all through Central America showing the peasants models by which they can better comprehend technical problems.

Education for Those who Wait

Throughout the world millions of man hours are spent every day in waiting--waiting in railway and bus depots, airports, hospitals and clinics, banks, ministries, etc. It is believed that one of the greatest unexploited and unresearched means of non-formal education in the developing countries is the communication of information and knowledge in the places where people wait. For those who have lived or traveled in the developing countries the vision of people waiting--stolidly, sullenly, rarely happily, for hours on end and often fruitlessly--is unforgettable.

Information can be communicated in much simpler, less sophisticated and less expensive ways than the mechanisms to which we have become accustomed--Times Square type of lighted headlines running along the facade of a building, quick changing color slides of all sizes with or without continuous voice commentary, mechanized filmstrips and various other eye and ear catching communicators. In some LDCs these are used, but where mechanized means are not available or considered too costly, a series of pictures in a variety of media, with simple text, can be hand flipped, or cranked, if on a roll, to communicate ideas, information, knowledge to those who wait. The visual image would provide the most important part of the message. The person manipulating the pictures might earn a modest sum for his labors.

The story to be communicated could be related to the waiting place. In clinics and hospitals, basic information about health, hygiene, child care, nutrition, etc., could be shown. In a ministry of agriculture, pictures telling the story of animal care, irrigation, fertilizers, plant

diseases, contour planting, etc., would be appropriate. In banks information about credit, interest rates, cooperatives and subjects related to economic development could be communicated. In public places including the streets a wide variety of general information might be offered. Near the visuals for adults should be picture series suitable for children. If parents wait stolidly, children wait restlessly, and they could be distracted from mischief, still be within parental control, and learn something at the same time.

Such a program of information transfer to those who wait provides an opportunity for imaginative innovation. Development institutes in the LDCs should be encouraged to explore the possibilities and assist where needed.

Non-formal Education through the Library/Information Center

The public library has often been called "the people's university." It provides a place where people should be able to go for free access to information and recorded knowledge in print or nonprint form, whether to satisfy some intellectual curiosity, find materials of recreational interest or to seek ways by which to better order their daily living and working. Service should be provided for different age levels.

Some years ago in one of the LDCs in a city of then somewhat over 300,000, now more than a million inhabitants, library service to children was limited to one small set of story books and the cartoons culled from the daily newspaper. Little urchins came each day to look at the cartoons. Their families took no newspaper, either because they

could not read or could not afford to. By the end of the day the cartoon pages were torn and grimy, but continued to be used as long as they held together.

Education will be extended far beyond the classroom as public libraries or information centers are established where groups of people cluster--in cities, towns, or villages. In many communities libraries can be established in schools which can be kept open after school hours to serve as public libraries, with the addition of materials suitable for the purpose. Whether information is dispensed in cities or at the village level, a central organization of an information or library service on a national basis is the only way the developing countries can efficiently and satisfactorily cope with the constantly increasing desire for information on all subjects, in the general aspiration of people toward better education and a better life.

The provision of information for non-formal education is part of a country's whole information infrastructure. The effectiveness of these information services can make a positive contribution to the nation's economic and social progress.

CHAPTER XI

INFORMATION TRANSFER THROUGH EDUCATIONAL TECHNOLOGY AND THE NEED FOR INFORMATIONAL MATERIALS

A number of years ago it was estimated that some 85% of man's remembered knowledge comes from his visual experience. The fact that commercial catalogs of educational materials attest to the widespread use of this theory. Librarians have added audiovisual materials to their books and other printed materials. School libraries have become instructional materials centers or learning resource centers.

Educational innovation has moved on to programmed instruction, teaching machines and educational television. The most powerful of all these tools, of course, is film, undoubtedly that which holds the greatest educational challenge for both the developed and the developing worlds.

The LDCs have been very slow to move away from the rote learning of the past and adopt new teaching techniques and teaching aids. However, in many countries where there are still no textbooks, it can hardly be expected that limited education budgets will be spent on visual "extras" and gadgets. Nevertheless as television opens up in the developing countries they suddenly have at their disposal a new technological means of upgrading educational levels through formal teaching in the classroom and through public broadcasting.

Teacher training facilities have been unable to keep pace with the increase in number of students to be educated. Television can accelerate the preparation of many teachers to a higher level of teaching. Each year there is more to learn and it is more difficult both to teach

and to learn. Classroom instruction either at the primary, secondary or higher education level can be supplemented by closed-circuit television prepared by superior professors using the important visual aids which a small school or a university cannot afford.

In the United States we have a surfeit of information hitting us from all the communications media. We are apt to forget the interest in, the excitement and impact of the first educational TV broadcasts such as New York University's "Sunrise Semester" which in 1957 broadcast to a large audience at 6:30 A.M. a course on comparative literature. The following year courses were increased to include the classics, literary heritage of man, government, mathematics, history of western civilization, physical sciences and sociology.

In 1958 "Continental Classroom" revolutionized the teaching of science by television with "Atomic Age Physics," to be followed the next year by "Modern Chemistry." These programs came into private homes and were viewed by thousands and were incorporated into college and university curricula for credit, with or without additional locally conducted seminars. Non-university students could, upon examination, receive credit thus opening the way to the "open university."

Other educational courses too numerous to mention followed and the Educational TV Stations took over much of this from the public broadcasting stations.

Public TV broadcasting in the LDCs still may be limited to only a few a day. With time and experience locally produced programs improve, but it is believed that for some time out-of-country

programs, particularly documentaries, educational and entertainment films will be found necessary to supplement home production. Educational TV for formal education in these countries is still in its infancy.

Videotapes undoubtedly exist for the bulk of educational TV programs shown in the United States through public broadcasting, educational TV stations and closed-circuit programs within educational institutions. Research should be done on programs shown in the past and new programs should be monitored to see what videotapes might be used in the LDCs with dubbing in of local languages. When not suitable for showing they would provide an invaluable resource for local adaptation and production.

The "open university" program, which has developed as a result of the first TV courses for which university credit was given, was in 1971 formally established in both Great Britain and the United States. These programs provide a more structured opportunity for those who have missed out on university education to work toward two years of university credit without formal entry requirement. Enrolled persons receive instruction by radio and television, packets of printed materials, books, correspondence and occasional in situ seminars. Libraries, both university and public, provide an important backstop for these programs.

An adaptation of the "open university" or "open education" for the LDCs would serve as a new means of educational upgrading. It should not necessarily be directed to the university level. In some countries it would be more suitable for the secondary level. In either case

examinations for equivalency diplomas, certificates or degrees, might be given. Local traditions and prejudices might have to be overcome where university graduates have even resented the idea of universities granting credit for courses offered outside the regular academic year, as in summer sessions.

Educational television is not created, or adapted, in a vacuum. It must be developed by highly educated people who work close to educational resources--books and other informational materials. Coordinated instructional aids must accompany the lessons and there must be printed materials to which students may turn after their televised instruction. TV cannot do it all.

Henry R. Cassirer in his "Television Teaching Today," Unesco's first assessment of TV's impact on education, has remarked,

"Television lacks the availability or permanency of the book. The printed word has made education accessible to anyone who is able to read and to obtain the necessary reading matter. Print has freed the skilled learner from the need for personal guidance by a teacher. The permanent record of the book may be consulted for reference, it can be read over again to improve understanding or to recall what was stored imperfectly in the learner's memory. The printed word, whether as article or book, remains the mainstay of knowledge, of scholarship and learning. Television can do no more than add a further dimension to our acquaintance with facts and ideas. None would see in it a substitute for reading."¹¹

Television, like radio, is an evanescent, transient medium. Educational television in capable hands can be a singularly effective tool, but it is a tool and not a substitute for the information infrastructure which every LDC sooner or later must develop--as a backbone of the educational system and to backstop economic and social development in all the priority fields.

¹¹Paris, Unesco, 1960, p. 149.

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CABLE ADDRESS: AMLIBASSOCANALYSIS OF LOANS TO
DEVELOPING COUNTRIES FOR EDUCATION
1962 - 1971
INTERNATIONAL DEVELOPMENT ASSOCIATION/
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

November 18, 1971

An analysis of 53 releases in regard to educational loans to 42 developing countries, covering the period, 1962 - 1971, and totaling \$442 million, indicates that only five loans included funds for libraries. Books are included in only three loans; in one case, falling within the sum of \$100,000 earmarked for civil works contracts (East Pakistan).

ANALYSIS OF LOANS TO
DEVELOPING COUNTRIES FOR EDUCATION
1962 - 1971
INTERNATIONAL DEVELOPMENT ASSOCIATION/
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

(Information from Official Press Releases)

<u>Country</u>	<u>Year</u>	<u>Lending Agency</u>	<u>Dollars (Millions)</u>	<u>Books/Libraries</u>
Afghanistan	1964	IDA	3.5	
Brazil	1971	IBRD	8.4	
Cameroon	1969	IDA	10.5	
Chad	1968	IDA	1.8	
"	1971	IDA	2.2	
*Chile	1970	IBRD	8.5	Books included in \$7 million loan for primary teacher training and agricultural schools
Colombia	1968	IBRD	7.6	
"	1970	IBRD	6.5	
Congo	1971	IDA	3.5	
Dominican Republic	1970	IDA	4.0	
Ecuador	1968	IDA	5.1	
El Salvador	1969	IBRD	4.9	
Ethiopia	1966	IDA	7.2	
"	1971	IDA	9.5	
Gabon	1968	IBRD	1.8	
Greece	1970	IBRD	13.8	
Guatemala	1968	IBRD	6.3	
*Guyana	1969	IBRD/IDA	5.8	Books included in development of 1 primary teacher training college, 5 new multilateral secondary schools, further development of 2 existing schools

<u>Country</u>	<u>Year</u>	<u>Lending Agency</u>	<u>Dollars (Millions)</u>	<u>Books/Libraries</u>
Indonesia	1970	IDA	4.6	
Ireland	1971	IBRD	13.0	
Ivory Coast	1970	IBRD	11.0	
**Jamaica	1966	IBRD	9.5	Expansion of post-secondary schools, includes libraries
"	1971	IBRD	13.5	
Kenya	1966	IDA	7.0	
Korea	1969	IDA	14.8	
Malagasy	1967	IBRD	4.8	
**Malawi	1967	IDA	6.3	Expansion of secondary schools, includes libraries
Malaysia	1969	IBRD	8.8	
**Morocco	1965	IDA	11.0	Construction and equipment of 21 secondary schools, includes libraries
"	1971	IDA	8.5	
Nicaragua	1968	IBRD	4.0	
Nigeria	1965	IDA	20.0	
**Pakistan	1964	IDA	4.5 (East)	Libraries included in development of technical institutes
"			8.5 (West)	
* "	1966	IDA	13.0 (East)	Books included in \$100,000 earmarked for civil works contracts
"	1970	IBRD/IDA	8.0 (West)	
Philippines	1964	IBRD	6.0	
Republic of China	1970	IBRD	9.0	
Senegal	1971	IDA	2.0	
Sierra Leone	1969	IDA	3.0	
**Somalia	1971	IDA	3.3	Includes libraries for 10 secondary schools
Spain	1970	IBRD	12.0	
Sudan	1968	IDA	8.5	

<u>Country</u>	<u>Year</u>	<u>Lending Agency</u>	<u>Dollars (Millions)</u>	<u>Books/Libraries</u>
Tanzania (Tanganyika)	1963	IDA	4.6	
"	1969	IDA	5.0	
Thailand	1966	IBRD	6.0	
Trinidad & Tobago	1968	IBRD	9.4	
Tunisia	1962	IDA	5.0	
"	1966	IDA	13.0	
Turkey	1971	IBRD	13.5	
Uganda	1967	IDA	10.0	
"	1971	IDA	7.3	
Zambia	1969	IBRD	17.4	
"	1969	IBRD	<u>5.3</u>	
		Total	422.0	

* Includes Books

** Includes Libraries

Library Development in Developing Countries: A Systemic Approach

John L. Hafenrichter
Education Advisor (Library Science), Saigon
Agency for International Development

Present Approaches

Library development in the "Third World" has traditionally been conceived variously in terms of book acquisitions, isolated staff training grants, and/or preoccupation with physical facilities—the visible components of a library. This concept emphasizes materials' acquisition and facilities rather than upgrading and improving manpower resources.

This strategy stems from the need for documentation within ongoing technical assistance projects in almost every area and specialization throughout the developing world. The visiting expert invited to advise in a developing nation quickly grasps the need to have access to materials and literature in his field; his use of materials is observed and the technique is adopted by counterpart officials. As younger men return from overseas observation and study programs, they also seek to organize reference documentation, as they found it abroad.

Visible library components are found in a wide variety of institutions, governmental units, societies, etc. In general, these isolated efforts can be traced to subject specialists. Only rarely have librarians become involved in planning these library undertakings. In those instances where a librarian is recruited as part of a developmental team, to superimpose a semblance of order, he concentrates primarily on cataloging and classification as a prerequisite to other library services.

Within the cultural and educational milieus of developing countries there may be an inherent hostility to institutions offering free-flow of information. This is generally disregarded and left unchallenged by the visiting librarian and specialist alike. Theirs is a project-centered emphasis. The subject expert concentrates on his subject area. The librarian devotes his attention to organization in deference to the need to report quantities of titles cataloged, cards filed, readers seated,

books circulated, etc., however, with no assurance that these indicators will continue to appear after external assistance has terminated.

Few guidelines as to applicable and relevant techniques concerning establishment of libraries in developing countries exist. The library profession in the developed world has not yet attempted to extract and apply essential experience derived from its own evolutionary process to work in developing countries. As a result, librarians involved in overseas endeavors in Africa, Asia, and Latin America often share the same disadvantage as the subject specialist in setting up their plans and designs. This contributes to an understanding, at least, of the prevailing preoccupation with visible library components only, rather than with preconditions and establishing states-of-readiness, both invisible, but more critical and essential to sound development within the discipline.

The Systemic Approach

Library development in the developing countries needs to be approached as a national complex of library services rather than the isolated development of specific libraries or institutional groupings of libraries. The complex itself represents a system which requires infrastructure. Development within this sphere should logically follow systemic lines.

The systemic approach requires: (1) the formulation of national and vernacular library science disciplines; (2) introducing professional library science instructional programs; (3) relating nascent libraries to lives and habits of more than a narrow stratum possessing advanced foreign language skills; and (4) defining the fundamental role of libraries as a contribution to educational modernization, and for broad self-renewing national development.

National Libraries should provide leadership and

centralized services to strengthen newly recruited and trained staff and to disseminate uniform library science innovations and techniques in the vernacular as they evolve. Systemic requirements relating to realignments in status of librarians within civil services or other staffing patterns must be approached on an overall planning basis. Administrative and budgetary revisions need to be handled in the same manner.

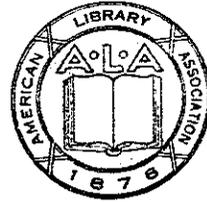
Perhaps the systemic approach, as a technique, can be supported most cogently, however, from an analysis of the very real limitations directly affecting development in the library domain which exist in most of the developing countries. Constraints on manpower available to fill leadership positions, to direct library science instructional programs, to serve in centralized foci where library science is evolved and from which immediate production of cards, bibliographies, etc. issues, and to function in operational-level library assignments as they are created, combine to make systemic planning mandatory. Constraints on budgetary resources possess an equally forceful imperative, making it necessary to limit the number of library institutions possessing comprehensive collections in terms of library access a given country can realistically afford.

There is cause for optimism regarding the feasibility of carrying out library development, and for realizing from it an impact within education and overall national development, if the systemic approach can be applied within the context of educational technical assistance. Under optimum circumstances, a decade is required, a recognition that this represents the minimum time needed to train overseas leadership to staff key positions in the infrastructure. During this period, the systemic approach serves as the sole means whereby the developmental focus will remain balanced in a consistent thrust aimed at both invisible and visible components which comprise the substance of library development in the developing countries.

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POSTGRADUATE LIBRARY EDUCATION FOR LATIN AMERICA;
IMPLICATIONS FOR ECONOMIC AND SOCIAL DEVELOPMENT

Draft Proposal

May, 1971

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INTRODUCTION

Professional library cooperation between the United States and other countries has had a lengthy history. More often than not it has been the result of a specific plea for help from a foreign government, organization, institution, or individual. However, a number of U.S. Government agencies, organizations and foundations have, over the years, included library and book activities in their regular programs of technical and cultural assistance. These instances of collaboration have, nevertheless, been isolated cases rather than part of a long-range, planned program affecting a whole region.

The Alliance for Progress has focused attention on the economic and social development needs of our neighbors. It will only be through improved education and better access to knowledge that Latin American countries will have a chance to move forward and take their place among the developed nations. Good libraries are essential to any program of educational improvement. Whether they are effective depends on the calibre of the librarians who plan and man them.

It is the constantly reiterated need for better trained librarians in Latin America that has suggested to the American Library Association the desirability of assisting in longer-range planning on a regional basis. The present proposal of a ten-year program for postgraduate library education in Latin America has been elaborated in the belief that improved libraries and library services are basic tools in the fashioning of a new economic and social order.

It is believed to be a program in which many entities would have an interest in participating. It is recognized that no Government agency or private organization would in any one year be able to make a ten-year commitment of support. It is a program which would be reviewed and assessed at every stage of its development. Each phase would be a positive contribution to the improvement of library services in Latin America.

Any developmental program, whatever its duration, can only be as effective as the individuals involved in it. A ten-year program, in which several hundred people would participate in one way or another, would naturally be subject to all the normal hazards of attrition. This underlines the importance of the selection of all participants. The Latin American universities where the programs would be carried out must be chosen with care. The climate of acceptance must be right, the program desired, cooperation and financial participation assured, with the possibility of subsequent "brain drain" reduced to a minimum.

Whether or not the optimum goals can be reached in a period of ten years, it is believed that the bold, long-range design must be drawn and the solid pattern brought into being step by step.

Eleanor Mitchell
Project Officer

I. ABSTRACT

The correlation between technological development and the quality of library services makes it imperative that the human resources needed in planning and extending these services in Latin America be found. To this end a ten-year support program is proposed, which will create up to six library schools at the postgraduate level in Latin America. The framework is provided by the National Policy Statement on International Book and Library Activities of the United States, the Declaration of the Presidents at Punta del Este, the projected activities of the Organization of American States, and the official programs of public, private, national, international, and regional organizations.

The goal of the project is to provide within the Latin American area educational facilities for the preparation of qualified library leaders, capable of national library planning at the highest level and of assisting in the development of those institutions most important to national growth. Specialized training at the master's or doctorate level at a selected library school in the United States will prepare teams of directors and professors of existing Latin American library schools and potential faculty members for postgraduate schools to be created, if such facilities are required.

The upgrading of library training, through its significant multiplier effect, will serve as a key contribution to educational progress and economic and social development in the Western Hemisphere.

The program will be administered by the American Library Association, working in collaboration with agencies of the United States Government and other entities.

II. THE PROBLEM

The proposal of a jointly sponsored and coordinated ten-year project for the creation of graduate level library education programs in Latin America is based on the premise that the economic, scientific, social, and cultural progress of a country is gauged by national educational levels, the state of development and quality of library services, and access to information.

The rapidly expanding population, the augmented number of potential readers, albeit a greater number of illiterates, the constantly accelerating increase in knowledge, particularly scientific and technological, with the attendant growing complexity of modern civilization, require an ever greater organization of information facilities and the planning of library services under higher qualified leadership. It is estimated that by 1975 the population of Latin America will reach 300,000,000. Carlos Victor Penna of UNESCO has calculated that a minimum of 150,000 librarians will be needed to provide vital library services [1]. The latest available information indicates that approximately 2,000 librarians are being trained annually, and this only at the undergraduate level. The new momentum of economic and social development, sparked in part by the Alliance for Progress, calls for a speeding up in the training of mature and competent librarians, capable of marshaling national and international bibliographic resources to serve as a powerful force in national growth.

Certain positive tendencies in the sphere of Latin American education and the book industry point to the need for early and long-range attention to providing this library leadership.

In the last few years Latin American national budgets have shown a rise in the rate of expenditure for education. Many millions of dollars have been made available on grant or loan bases for educational improvement and development in Latin America through the United States Government and private and international funding agencies. The annual flow of net foreign investments to Latin America from all sources and for all purposes is estimated to be of the magnitude of two billion dollars. Aid to libraries, however, has largely been on an individual institution strengthening basis.

University reform programs reflect a slow, but increasing, trend toward the creation of the university campus or university city, curricula reform, the establishment of basic studies programs, more full-time professors, less rote learning, an increase in university-based research - all of which lead in the direction of a centralization and coordination of library services. It is, furthermore, in the universities and other institutions of higher specialized training that the future leaders of Latin America will be trained. Their libraries, then, must receive priority assistance, and this requires the upgrading of their personnel.

Book production, essential to the building of library collections, is being stimulated in both the Portuguese and Spanish speaking areas. The aim of the National Textbook Program in Brazil, which is being carried out with the assistance of AID, was to make available some 51 million books at the elementary, secondary, and university levels by the end of 1969, and to establish school libraries [2]. The Regional Technical Aids Center (RTAC) in Mexico, AID's translation/publication facility, is making available

important titles in Spanish, many of them textbooks, which are being funneled into university and other libraries throughout the countries of Spanish America. A university bookstore program has been developed with RTAC assistance in 78 universities in 17 countries. RTAC has also sponsored a certain number of university textbook rental libraries. For too long Latin American students have reached university studies without having acquired the habit of reading, due to a lack of access to libraries. This pattern can be broken only when libraries at lower educational levels are available.

Developing countries require library leadership that is just as well-educated, professionally trained and highly qualified as a technically developed country. Too often assistance programs have been tailored down to levels supposed to be adequate for a given area - under the concept that, since slower progress will be made, less highly trained leadership is sufficient. The development process may be extended over a longer period of time, but there can be no compromise as to the quality of leadership needed. At the same time 20th Century economic and technological progress demands that the library development process in Latin America be accelerated far beyond that experienced in the evolution of the United States.

Thus far assistance to Latin American library schools has been a piecemeal attack on library problems. It has consisted of general aid to individual schools, the presentation of bibliographic materials, the provision of scholarships for the training of librarians, or, in one instance, the creation of a library school at the undergraduate level. These have all been useful contributions, but sights have been set too low for this vast area, when viewed against its impelling long-range development needs.

It will take a coordinated effort of some scope to bring into being simultaneously in several countries of Latin America facilities for library education at the graduate level. This will normally be done through the upgrading of selected existing undergraduate programs affiliated with universities or ones which should and can be attached to universities. The need for the creation of new graduate library schools will be considered. It will only be through better educated and better trained librarians that there is hope of raising the status of the library profession, improving salaries, and offering the challenge of service which will prevent the flight of those who are qualified, to seek more lucrative opportunities elsewhere or in other fields.

Qualified Latin American librarians must be able to plan and develop library services. They must be able to communicate to educators the means of using them in the educational process. They must be able to show the people at the top management level who are responsible for overall national planning the way in which libraries can help put knowledge and ideas to work for economic and social progress. The preparation within the Latin American area of these library leaders will make possible a long stride forward in country and regional development.

III. OBJECTIVES

The growing awareness of the role which books and libraries must play in economic and social development has moved the American Library Association, in its liaison relation with the Agency for International Development, to outline a ten-year project for Postgraduate Library Education for Latin America.

The aim of the program is to upgrade library education in Latin America through the provision of quality training in the United States for much-needed, full-time professors for up to six graduate library schools to be established through inter-American cooperation. U.S. library consultants will assist in the structural organization of the schools.

The ultimate objective of the proposed project is, of course, the improvement of library services of all kinds needed in Latin America today by making possible more adequate training of the professional personnel required. These schools will be in a position to recruit and train mature librarians, capable of assuming leadership in planning and developing library services on a national basis.

IV. PROCEDURE OF THE PROJECT

A long-range, coordinated program for the upgrading of library education in Latin America will be developed in three phases: 1) planning; 2) establishment of a centralized training program in the United States; and 3) the actual development of Latin American graduate library schools with outside experts. Evaluation of progress and effectiveness will be a continuing process.

PHASE 1 - PLANNING

A program of this magnitude will require the collaboration of concerned and knowledgeable people throughout the Hemisphere. The first phase, therefore, will be one of consultation with these people and exploration of the means of carrying out such a program. Library schools will be selected for assistance on the basis of accomplishment to date and promise. This assistance must be wanted and understood. Universities of which the schools are a part must be willing and able to provide adequate quarters and facilities for the expanded program, and pay the local costs of foreign personnel involved. They must be prepared to assume responsibility for the schools at the end of the ten-year period.

1. Inter-American Advisory Committee

An Inter-American Advisory Committee will be named to advise the American Library Association on the implementation of the project. The Committee will be composed of six library leaders of the Hemisphere. The three U.S. members will be persons who have been closely concerned with library development in Latin America. The three Latin American members will be librarians who have taken part, not only in national, but also regional activities.

The Committee will review the planned procedure and budget of the project and make recommendations of candidates for the position of Program Coordinator and members of a survey team, which will make a preliminary survey of library schools in Latin America. On the basis of the results of this study the Committee will select the library schools to be upgraded. It will review and evaluate progress reports, and, if needed, suggest a modification of the program. The Committee will meet once a year during the course of the ten-year project. In Years 1, 6, and 10 their meetings will be extended two days in order to meet with representatives of cooperating agencies.

2. Appointment of Program Coordinator

A U.S. librarian with ample experience in Latin America will be selected to serve as Program Coordinator and executive secretary of the project. He will be based in the International Relations Office of the American Library Association and will work in close liaison with U.S. Government agencies, the Library Development Program of the Organization of American States, and other cooperating bodies.

3. Conference of Cooperating Agencies

One of the first assignments of the Program Coordinator will be the organization of a two-day conference, to be convened by the American Library Association, of representatives of agencies concerned with book and library activities in Latin America, whose programs would be furthered by the realization of the project. In conjunction with members of the Inter-American Advisory Committee the project will be analyzed in detail so that

agency representatives may consider spheres of particular interest and extent of potential support. Further meetings will be held during Years 6 and 10 in order to evaluate progress of the project.

4. Questionnaire to Latin American Library Schools

In the near future a questionnaire will be circulated by the Library Development Program of the Organization of American States to all Latin American library schools, which are affiliated with universities, or which could be so affiliated, to ascertain the extent to which they measure up to the Standards for Library Schools in Latin America, elaborated at the Escuela Interamericana de Bibliotecología in Medellín, Colombia, 1963-1965, and their programs for upgrading. (See Appendix A)

5. Preliminary Survey of Library Schools

A preliminary study of library schools in Latin America will be made by a survey team, composed of one U.S. and one Latin American librarian. Reconnaissance visits will be made to Latin American library schools on the basis of replies to a questionnaire requesting information as to their programs, development plans, and conformity to Medellín standards. Visits may be made to areas where no library schools now are in operation. Discussions will be held with officials of the schools, universities and Ministries of Education, national educational planning officers, officers of library associations, and national and regional associations of universities. Consideration will be given to the educational, social and cultural climate, the potential for improvement or development of advanced library education, the willingness of institutions to provide funds for local expenses of foreign consultants,

to carry on the program upon the completion of the ten-year support period, and provide adequate faculty salaries and student aid.

It is estimated that the survey will be completed within one year, nine months of which will be given over to the actual visits and three months to the preparation of the reports and recommendations. Reports will be written while in the country of study. On the basis of these recommendations, Latin American library schools, up to the number of six, will be selected for upgrading to postgraduate level, or universities where postgraduate facilities can be created, will be chosen. Whether undergraduate training will be continued at the same time as the advanced study program, will be decided on an individual basis. In Latin America where normal school training is generally at the secondary school level, it seems likely that undergraduate library education will continue to be needed.

6. OAS Direct Technical Assistance Missions

Following the selection of the Latin American library schools to be upgraded, OAS Direct Technical Assistance Missions, composed of one U.S. and one Latin American consultant, will be sent to each of the schools selected to survey specific needs in respect to quarters, furniture, bibliographic and audiovisual materials, laboratory equipment, etc. Changes to be made and materials to be acquired, on the basis of the recommendations of these studies, will for the most part be accomplished by the first part of Year 4, on the return of the directors and professors from the first of the specialized training programs in the United States.

The missions will be carried out during Year 2, with a period of two months spent at each school.

PHASE 2 - CENTRALIZED TRAINING PROGRAM

A centralized training program will be developed at a selected library school in the United States. It will be especially oriented to the formation of Latin American faculty teams capable of directing and developing graduate library schools. It will be carried on over a period of eight years, with two trainees at a time from each school participating in a two-year program.

1. U.S. Library School as a Center for a Centralized Training Program

A U.S. library school will be selected by the Inter-American Advisory Committee as the location of a centralized training program for Latin American library school directors and professors. The school will be one affiliated with a university having extensive Latin American holdings.

The program of studies will be tailored specifically to project goals: the preparation of faculty for postgraduate library education, training for library leadership, and the planning of library services. The team approach will be stressed. A full-time Spanish-speaking Program Director, preferably with some knowledge of Portuguese, will coordinate the program and serve as adviser to the trainees. The faculty of the U.S. library school will be strengthened by the addition of professors from other schools, preferably ones who have recently been involved in library school planning and development. The constant presence of visiting professors of varying backgrounds and outlooks will assure fresh points of view and avoid having a faculty which is too ingrown.

The basic professional collection of library science publications and audiovisual materials required by a postgraduate library school in Latin

America will be developed here for use by the trainees. It will serve as a model collection against which holdings in their schools may be checked so that lacking materials may be acquired.

2. AID University Contracts between U.S. University and Six Latin American Universities

Close collaboration in dovetailing actual plans for organization of the graduate schools will be furthered by AID sponsored university contracts, established between the U.S. university and the six Latin American universities selected. This will cover U.S. library professor-consultantships at the Latin American schools, fellowships at the U.S. library school, bibliographic and audiovisual materials, laboratory equipment, and furniture and equipment not obtainable locally.

3. Latin American Fellowship Program at U.S. Library School

In the second year of the ten-year project the director and one professor from each of the Latin American library schools to be upgraded will begin their two-year program of advanced professional training at the U.S. library school selected. In Years 4-5, 6-7, and 8-9 two additional professors from each school will be in training in the United States.

In the case of a new school to be created, five mature university graduates, whether or not with library experience, will be selected as future faculty of a graduate library school. They will be sent as a team to the U.S. library school for Years 2-3, to study with other trainees.

Trainees who do not have the master's degree in library science will work for this degree. Based on achievement and promise, fellowships may be extended to permit study for a doctorate. Trainees already holding

the master's degree will begin doctoral studies. Those already possessing the doctorate in library science will have a specially designed program of one year.

Insofar as feasible, course work and assignments will be directed to the actual problems which trainees will face in developing a postgraduate library school facility. This will include the preparation of syllabi and other teaching materials. Consideration will be given to the adaptation of U.S. library practices and procedures to the practices characteristic of Latin American libraries. Bibliographical work will include bringing up-to-date and maintaining on a current basis the Bibliografía Bibliotecológica for the Organization of American States, which will continue to publish and distribute the list. This will provide the basic list of publications for Latin American library school libraries. Special attention will be given to the methodology of teaching library science.

Trainees in preparation for faculty posts at a new school will carry out curriculum and organizational planning during the training period.

Special advantages will be derived from the team approach, from both national and regional points of view, namely the sharing of training experience in a highly motivated program and the laying of foundations for future inter-country cooperation. It will contribute to a standardization of library science teaching in Latin America.

PHASE 3 - DEVELOPMENT OF LATIN AMERICAN GRADUATE SCHOOLS WITH OUTSIDE EXPERTS

The development of the postgraduate schools will actually be carried on concurrently with the training period in the United States. U.S. library consultants will take the place of the Latin American trainees and begin the

local development process in close coordination with the trainee program. It is hoped that in Year 5 the graduate programs may be initiated. It is recognized that the timing may vary from school to school. Schools will be strengthened as each succeeding team of trainees returns to take up its duties.

1. U.S. Library Professor-Consultants at Latin American Library Schools

During Years 2-6 two U.S. library professor-consultants will be in residence at each of the selected Latin American schools to be upgraded, replacing the director and professors participating in the specialized training program in the United States. In addition to teaching they will help with plans, preparations and actual launching of the postgraduate library studies programs. If possible, at least one of the two consultants at each school will remain for the first five-year period. One North American will be at each school during Years 7-10.

When a new school is created it will have only one U.S. consultant at the Latin American university during Year 3, two thereafter for Years 4-10.

2. Latin American Fellowship Program (Puerto Rico)

Contingent on the success and effectiveness of the Graduate School of Librarianship of the University of Puerto Rico, a fellowship program for potential Latin American library leaders and library school professors would be based at this school, especially for those whose facility in English is limited. Twenty fellowships would be made available for Years 3-5, ten for Years 6-10. This would total 110 fellowships of one year's duration. Library leadership could thus be strengthened even before the first classes could graduate from the postgraduate library schools, hopefully in Target Year 5.

Some of these librarians would probably serve as professors in existing undergraduate schools. They or others might later teach on the faculties of postgraduate schools, presumably following advanced studies in the United States.

A certain number of the fellowship candidates would be recruited from countries which currently have no library schools. They would eventually form a key group in their countries and provide potential leadership in the development of library schools.

3. Establishment of Six Latin American Postgraduate Library Schools

It is hoped that by the beginning of Year 5 the postgraduate library schools will be in a position to begin their new programs, either by the transition of undergraduate schools to postgraduate status, or by the creation of new postgraduate schools. It is conceivable, however, that local circumstances and personnel considerations may delay the initiation of the graduate program.

At the beginning of Year 5, two U.S. professor-consultants will have been in the existing schools selected since Year 2 (in the case of a new school, one during Year 3). By the time of return of the director and one professor at the end of Year 3 (five faculty members, if a new school), all needed bibliographic and audiovisual materials, and laboratory and other equipment will be on hand. In some cases quarters will have been remodeled or built, and furnished. Syllabi and other teaching materials will have been prepared during the two-year period in the United States by the Latin American trainees under the guidance of the U.S. library school professors. These will have been put to use by the U.S. consultants at the Latin American

schools. During Year 4 these materials will be reviewed, further planning details carried out, and any remaining problems as to quarters resolved.

In the event of a new school to be created, the U.S. consultant at the Latin American university will have spent much of Year 3 planning the library school quarters, overseeing their building and equipping. During Year 4 two U.S. consultants and the five returnees will be occupied in the actual organization of the school, preparation of the materials in the professional library, recruitment of students, and general promotion.

Close liaison will be maintained at all times between the U.S. library school and those in Latin America, and between trainees and consultants. Collaboration will be furthered by the AID university contracts.

4. U.S. Lecturers for Special Courses

Three U.S. library professors will be provided during Years 5-9 under the Department of State specialist program and the Fulbright lecture program, with additional compensation supplied from other sources. Each will give special semester courses at two schools.

5. Non-U.S. Lecturers for Special Courses

Three non-U.S. library professors will be provided during Years 5-9. Each will give special semester courses at two schools.

6. Fellowship Program at Latin American Library Schools

Years 6-10, 30 fellowships will be available each year for selected candidates from countries having no graduate library schools for study at the established schools.

V. EVALUATION

The evaluation of the program will include reports of preliminary surveys and missions, and annual reporting from the Latin American library schools and the U.S. training center, making possible a continual review of the project. These combined with evaluation surveys, will provide the cooperating agencies with a gauge of progress and accomplishment. (For Ten-Year Project Timetable, see Appendix D)

1. Reporting

The Program Coordinator will relay to the Inter-American Advisory Committee and the Cooperating Agencies reports of the preliminary survey, the OAS Direct Technical Assistance Missions, and OAS Evaluation Missions; annual reports will be prepared for the Committee and Cooperating Agencies.

2. OAS Evaluation Missions

At the beginning of Year 6, an OAS Evaluation Mission, composed of one U.S. and one Latin American consultant, will spend one month at each of the six Latin American graduate library schools to survey progress of the schools after the first year of the advanced training program.

Final evaluation of the project will be made in Year 10. This will include not only an evaluation of the schools, but also a survey of the progress made in the development of library services in the country as a result of the training given. The advisability of organizing Regional Seminars on the Teaching of Librarianship and on Research in Librarianship will be studied.

VI. PERSONNEL

Personnel required to carry out the program consists of:

1. Inter-American Advisory Committee (6 members for 10 years)
2. Program Coordinator (10 years)
3. Survey Team (1 year)

U.S. member

Latin American member

4. Program Director at U.S. library school (9 years)
5. OAS Direct Technical Assistance Mission (1 year)

U.S. member

Latin American member

6. OAS Evaluation Missions (2 missions, one half year each)

U.S. members

Latin American members

7. Appropriate secretarial assistance

VII. DURATION

The phased program is planned for completion by the end of ten years.

VIII. BUDGET

It is expected that the budget for this project will be shared by a number of cooperating agencies. The detailed estimated ten-year budget, budget justification, estimated ten-year summary, and estimated budget for Phase 1 - Planning (Year 1) may be found in Appendix E. Budget Projection.

IX. RESULTS TO BE ACHIEVED

Some 150,000 qualified librarians are needed in Latin America to effectively relate the use of books and libraries to economic and social progress. The proposed program will provide training for key library educator-leaders for schools which will prepare librarians at a higher professional level than has hitherto been possible in Latin America. Due to the multiplier factor, the actual number of persons involved during the ten-year period is only a small fraction of those who will benefit from the program.

During Years 2-8 of the project, six Latin American library school directors and forty-two professors will be trained at a selected library school in the United States. This school will be strengthened during the course of the program. It is hoped that at the beginning of Year 5 six graduate library schools will come into being in Latin America, established either by upgrading existing schools or creating new ones.

One hundred and thirty potential library leaders and library school professors from all over Latin America will participate in a fellowship program at the Graduate School of Librarianship of the University of Puerto Rico during Years 2-10. Following the first year of activity of the six graduate library schools, thirty fellowships, five at each school, will be made available each year during Years 6-10. These one hundred and fifty trainees will be selected from countries having no postgraduate library school facilities.

The intensive training program in Puerto Rico and at the six other graduate library schools, geared to the specific needs of Latin

America, will result in a material improvement in other existing library schools and conceivably their upgrading to graduate status even before the termination of the ten-year project. It will provide necessary faculty for the creation of new schools. Teaching materials prepared for the six graduate library schools will be made available to all interested library schools in Latin America, thus contributing to their betterment.

Most immediately affected by the establishment of the six graduate library schools will be the libraries of the universities with which they are affiliated--both in structure and services. Latin American university rectors are desperately seeking mature, professional librarians who can plan and develop these services. They have recognized that a good library provides the means of upgrading education, whether or not the curriculum has been revised, class instruction improved, or whether or not faculty members teach on a full-time basis. In certain institutions it has been noted that when good books are made available in attractive surroundings, students are drawn to them and will read, regardless of a lack of previous library experience. University library reorganization in the six key universities will spur other universities and institutions of national significance to follow suit.

Vital national library planning at all levels will be carried out by graduates of the six library schools, who will have been trained for such purposes. Offices of educational planning will benefit from the services of competent library planning experts. New horizons in economic, technological, and social progress will be opened up by this coordinated, long-range program of library development.

APPENDIX A. RELATED PROGRAMS, ACTIVITIES, AND RECOMMENDATIONS

The present proposal spells out in detail the long-range, optimum program considered to be essential to carrying out the directives of the United States Government, the Presidents of the Americas, assembled at Punta del Este in April, 1967, and the Organization of American States, as well as the program aims of other organizations, which relate to the use of books and library activities in Latin America.

It negates no standards thus far established. It recognizes a felt need expressed by many organizations, agencies, and individuals for the upgrading of those persons responsible for planning and developing library services and for the use of printed materials. It is a coordinated and cooperative program planned, not to compete with any existing efforts, but rather to extend and support them. It provides a specific plan of action.

A coordinated program such as the present falls within the framework of the "National Policy Statement on International Book and Library Activities" and the "Directive to Government Agencies for Implementation of the National Policy Statement of International Book and Library Activities" [3,4]. (See Appendixes B and C.)

It is concisely stated in the Latin American Book and Library Policy prepared by the Latin American Task Force of the Inter-Agency Book Committee, which has been approved by the Secretary of State [5]. Action recommended in carrying out short term objectives related to library development includes the following:

"Study the need for and possibilities of upgrading existing library schools to include graduate level training."

One of the short term objectives concerned with policy and organization is:

"To guarantee that all U.S. supported educational programs in Latin America have as an integral part of their operation and philosophy a modern book and library element."

The success of some AID projects has been qualified by the absence of book and library support.

The American Chiefs of State stated in the Declaration of the Presidents, that "education is a sector of high priority in the overall development policy of Latin American nations" [6]. They declared that

"To give a decisive impetus to education for development, literacy campaigns will be intensified, education at all levels will be expanded, and its quality improved so that the rich human potential of their peoples may make their maximum contribution to the economic, social and cultural development of Latin America. Educational systems will be modernized taking full advantage of educational innovations, and exchanges of teachers and students will be increased."

Sufficient personnel is not currently available in Latin America to carry out the book and library activity proposals of the Organization of American States, as outlined in "Culture in Relation to Development," a document prepared by the General Secretariat for the Fifth Meeting of the

Inter-American Cultural Council, held in Maracay, Venezuela, February 15 - 22, 1968 [7]. These include recommendations to establish national planning units in national bureaus of educational planning, to assume responsibility for setting up nationwide systems of school and public libraries, to develop plans for the reorganization of university libraries, to coordinate scientific and technical libraries, and to review national library legislation. In some countries Ministry of Education officials have no knowledgeable library leaders to whom they may turn for guidance in the planning of library services and use of books.

At the Maracay Meeting the establishment of a Regional Educational Development Program was approved [8]. Improved access to books and better libraries are implied in all the activities outlined for this Program. A Regional Program of School and University Library Development was singled out specifically for priority action [9].

A Round Table on International Cooperation for Library and Information Services in Latin America, was held in Washington, September 29 - October 2, 1965, sponsored by the Library Development Program of the Pan American Union [10]. Library leaders of the Hemisphere met with representatives of various agencies, international and national, official and non-governmental, concerned either directly or indirectly with libraries and book distribution. Their "specific conclusions concerning needs which can only be met by international technical and financial support and cooperative action," were first addressed to the problem of "education for librarianship."

With a grant from the Rockefeller Foundation the Inter-American Library School of the University of Antioquia in Medellín, Colombia, sponsored a detailed

study of library education in Latin America, through three Study Groups of leading library school directors and teachers, which met in 1963, 1964 and 1965 [11]. An analysis of reports on the state of the library profession in the various countries served as a background document for the study. The first Study Group concentrated its attention on the "formation of librarians and improvement of librarians in service in Latin America" [12]. The Second and Third Study Groups concerned themselves with course content of library school curricula. Out of these Study Groups there was evolved a document on Standards for Library Schools in Latin America, commonly referred to as the Medellín Standards [13]. These norms hold for professional library schools at the undergraduate level. Every effort should be made by library schools to bring themselves at least up to these standards. Most three-year schools have already extended to the four-year program recommended.

The planning of library services has become an important element of the program of UNESCO's Department of Documentation, Libraries, and Archives, as seen in their seminars, missions to Member States, and in their publications. Carlos Victor Penna has written cogently on this subject [14].

"The planning of library services is regarded as one specific aspect of educational planning within the social and economic planning of a country or region; for only within this context can library planning acquire the foundation of support which it needs if it is to be effective. Regarded in that way, the planning of library services implies a continuous, systematized process of studying educational problems at all levels, including adult education, and the problems of scientific

research from the standpoint of library needs; it also involves determining the aims of library services, setting the targets for attaining those aims, and preparing realistic decisions to ensure that those objectives will be reached through the rational and reasonable use of available resources...

"In all Latin American countries, without exception, staff is the first problem that must be tackled."

In 1966 AID Book Development Surveys were conducted in Peru and Chile [15, 16]. In both countries the need for more trained librarians was stressed and fellowships for training abroad recommended. There is an awareness of the need for greater educational background for librarians. Their library schools had no full-time faculty. Better quarters are needed. The Chile report mentions specifically the necessity of strengthening the school's professional library collection. In Peru university affiliation is needed. Among specific recommendations of the Chile report, it was proposed that U.S. library consultants be loaned to the Ministry of Education to develop a national plan of library service and assist in developing standards for school libraries and to set up a national school library service.

Library leaders in certain Latin American countries consider that the upgrading of their library schools to the postgraduate level is an urgent necessity. In Brazil the Federal Council on Education (Conselho Federal de Educação) has approved norms proposed by a committee of librarians for postgraduate courses leading to the master's and doctor's degree. The schools at Brasilia and Bahia have made preliminary plans for adding advanced courses [2].

The need for library training for university graduates employed in university libraries in Mexico led to the request in 1965 to the Ford Foundation for assistance, which indirectly resulted in a study by Messrs. Paul H. Bixler and Carl M. White of the library situation in Mexico in its relationship to cultural and social progress. In 1966 Mexican librarians agreed upon the conditions to be considered in the selection of an institution of higher learning at which a postgraduate facility should be created. Plans of the Inter-American Library School in Medellín call for a change to postgraduate status. Argentine library schools agreed to reach the Medellín standards by 1970, at which time an evaluation of their efforts was to be made. In the fall of 1970 approval was given for the addition of graduate courses at the library school (Carrera de Ciencias de la Información) attached to the Faculty of Philosophy and Letters of the University of Buenos Aires.

APPENDIX B. NATIONAL POLICY STATEMENT ON INTERNATIONAL BOOK AND LIBRARY ACTIVITIES

In his message to Congress of February 2, 1966, the President* said, "Education lies at the heart of every nation's hopes and purposes. It must be at the heart of our international relations." Books, by definition, are essential to communication and understanding among the peoples of the world. It is through books that people communicate in the most lasting form their beliefs, aspirations, cultural achievements, and scientific and technical knowledge.

In the United States and other developed countries, where there has been the opportunity for a long time to emphasize education and books, there have been created vast resources of printed materials and other forms of recorded knowledge in all fields of human endeavor. In the United States, a great complex of library systems has emerged, serving ordinary citizens as well as students and scholars. In the developing countries, where more than two-thirds of the world's population live, there is an acute need for the books essential to educational growth and general social progress, and for libraries which can enable these nations more easily to acquire and use the technology of the modern world. The United States Government declares that it is prepared, as a major policy, to give full and vigorous support to a coordinated effort of public and private organizations which will make more available to the developing countries those book and library resources of the United States which these countries need and desire.

The total needs of the developing countries with regard to books cannot be adequately filled by assistance from the outside; nor, under

*President Lyndon B. Johnson

present conditions, can they be filled from local resources. From a long-range point of view, the establishment of viable book publishing and distributing facilities in the developing countries and regions is essential. It shall therefore also be the policy of the United States Government to encourage and support the establishment of such facilities.

The utility of books goes beyond their contribution to material progress. The free and full exchange of ideas, experiences and information, through books, is indispensable to effective communication between people and nations, and has a unique role to play in the enrichment of the human spirit. Recognizing this, the United States Government is further prepared, as a major policy, actively to promote the free flow of books and other forms of recorded knowledge.

The task of filling the world's need for books and of achieving an adequate exchange of books among the nations is immense. No single institution or agency and no single government can hope to accomplish it alone. It is therefore essential that all agencies of Government concerned in any way with international book and library programs assign to these a high priority. It is further essential that they coordinate their book and library efforts with those of other pertinent government agencies and private institutions. Agencies will propose to the President for transmittal to the Congress any requirements for new legislation or special funds to carry out this policy. All agencies of Government, under the direction of the Department of State, should actively seek to cooperate with other governments on a bilateral or multilateral basis in the achievement of these objectives.

The Assistant Secretary of State for Educational and Cultural Affairs has the responsibility for coordinating United States Government efforts in this field.

APPENDIX C. DIRECTIVE TO GOVERNMENT AGENCIES FOR IMPLEMENTATION OF THE NATIONAL POLICY STATEMENT ON INTERNATIONAL BOOK AND LIBRARY ACTIVITIES

- I. To carry out the foregoing policy, agencies are directed to develop specific courses of action, within the framework of their financial resources and statutory responsibilities, to accomplish the following goals:
 - A. To ensure that the book and library assistance programs of all federal agencies contribute on a coordinated basis to the broad objectives of educational growth and peaceful progress in the developing countries by such activities as:
 - (1) Assisting in the development of textbooks and supplementary reading materials for indigenous school systems;
 - (2) expanding programs for distributing and supporting the publication of low-priced editions of American books, including textbooks and source materials, in English and in translation;
 - (3) establishing, under local auspices, English and indigenous language rental libraries and bookstores for high school and college students;
 - (4) providing graded reading materials for new literates in local languages or English;
 - (5) providing books to support the basic professions and trades and the learned disciplines, theoretical and practical;
 - (6) providing funds and technical assistance to establish viable indigenous book publishing and distributing facilities;

- (7) contributing to the development of greater professional competence by increasing the number of exchange and training programs for book publishers, librarians, textbook writers and editors, and persons engaged in related activities;
- (8) supporting a program of library development, in cooperation with the U.S. publishing industry, U.S. libraries, library organizations and institutions, to include:
 - (a) assistance in adapting to local conditions and needs the most advanced library technology;
 - (b) overall "collection development" programs by cooperating institutions in the U.S.;
 - (c) counseling on library development;
 - (d) sizeable expansion of the present Smithsonian program to provide core libraries overseas with U.S. journals and serial publications;
- (9) initiating a major training program for library personnel, to include:
 - (a) strengthening of existing national and regional library schools, plus refresher and in-service training and selected work-study training in the U.S.;
 - (b) development of additional regional library schools, with provision of scholarship funds;
 - (c) instruction in the application of modern technology to library practices.

- B. To encourage and directly support the increased distribution abroad of books studying or reflecting the full spectrum of American life and culture by:
- (1) expanding U.S. book "presentation" programs and otherwise facilitating gifts of books abroad;
 - (2) encouraging cooperative ventures between U.S. and overseas publishers for the publication of American books abroad, in translations or in inexpensive English language reprints; and
 - (3) increasing the number of American libraries and bookstores overseas.
- C. To further a greatly increased inflow of foreign books and materials including journals, microfilms, and reproductions of art, music, folklore, archival and manuscript collections, to U.S. libraries through the use of PL 480, appropriations under Title II c of the Higher Education Act of 1965 and other funds.
- D. To stimulate and support a much more extensive exchange program in books and related materials between U.S. and foreign libraries, museums, educational and research institutions.
- E. To encourage closer liaison between American and foreign libraries, greater exchange of reference and bibliographical information, and closer collaboration in the development of information storage and retrieval and computer utilization programs.

F. To support, as appropriate, measures designed to lower or eliminate tariff barriers, exchange restrictions and other impediments to the free flow of books and related educational materials.

G. To provide greater support to the efforts of the U.S. book industry toward the attainment of these goals.

II. The Department of State, in consultation with appropriate agencies, is directed to ensure:

A. That activities of U.S. Government agencies are coordinated in such a way that Government resources will be used with the greatest efficiency and economy.

B. That the actions of the U.S. Government take into account the activities of private institutions and of the American book industry in the international book and library field.

C. That specific actions are tailored to conditions in specific countries or regions.

III. In seeking any new legislation or additional funds, agencies, in consultation with the Department of State, should make appropriate proposals to the President through normal legislative clearances and budgetary channels.

APPENDIX D. TEN-YEAR PROJECT TIMETABLE

ACTIVITY	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
PHASE 1 - PLANNING										
Meeting of Inter-American Advisory Committee	X (6)*	X (6)								
Program Coordinator in International Relations Office, ALA	X (1)									
Conference of Cooperating Agencies	X					X				X
Questionnaire to Latin American library schools	X									
Preliminary survey of library schools in Latin America	X (2)									
Selection of 6 Latin American library schools to be upgraded or created	X									
OAS Direct Technical Assistance missions to 6 Latin American library schools (2 months each)		X (2)								
PHASE 2 - CENTRALIZED TRAINING PROGRAM										
Selection of U.S. library school for centralized training program	X									
Program Director at U.S. library school		X (1)								
AID university contracts between U.S. university and 6 Latin American universities		X	X	X	X	X	X	X	X	X
Development of model collection of bibliographic and audiovisual materials at U.S. library school		X								
Fellowships - director and 1 professor from each selected Latin American library school, at U.S. library school (2 years each)**		X (12)	X (12)							

* Number of personnel involved

** Based on upgrading existing schools, rather than the creation of new ones.

ACTIVITY	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
PHASE 2 - CENTRALIZED TRAINING PROGRAM (CONTINUED)										
Fellowships - 2 professors from each Latin American school at U.S. school (2 years each)				X (12)						
PHASE 3 - DEVELOPMENT OF LATIN AMERICAN GRADUATE LIBRARY SCHOOLS WITH OUTSIDE EXPERTS										
U.S. library professor-consultants at selected Latin American library schools (2 at each school for Years 2-6; 1 for Years 7-10)		X (12)	X (12)	X (12)	X (12)	X (12)	X (6)	X (6)	X (6)	X (6)
Fellowships at Graduate School of Librarianship, University of Puerto Rico, for potential Latin American library leaders and library school professors		X (20)	X (20)	X (20)	X (20)	X (10)	X (10)	X (10)	X (10)	X (10)
Establishment of postgraduate programs at 6 Latin American library schools						X				
Fellowships at Latin American post-graduate library schools for students from countries having no postgraduate facilities						X (30)	X (30)	X (30)	X (30)	X (30)
U.S. lecturers for special courses at Latin American post-graduate library schools						X (3)	X (3)	X (3)	X (3)	X (3)
Non-U.S. lecturers for special courses at Latin American postgraduate library schools						X (3)	X (3)	X (3)	X (3)	X (3)
EVALUATION										
Reporting	X	X	X	X	X	X	X	X	X	X
OAS Evaluation Missions to 6 Latin American postgraduate library schools (1 month each)						X (2)				X (2)

APPENDIX E. BUDGET PROJECTION - 1. ESTIMATED TEN-YEAR BUDGET

A. Direct Costs

Personnel (International Relations Office, American Library Association - AID Liaison)

Salaries

1.	Program Coordinator at \$25,000/year, 10 years	\$250,000	
2.	Secretary at \$8,000/year, 10 years	80,000	
3.	Employees' benefits (Social Security, retirement, group hospital and life insurance - 15%)	49,500	
4.	Travel at \$2,000/year, 10 years	20,000	
5.	Per diem 30 days at \$25/day, 10 years	7,500	
6.	Sub-total (Personnel)		\$407,000

Advisory Services (for planning, carrying out, and evaluation of project)

Salaries and honorariums

7.	Inter-American Advisory Committee, 6 consultants at \$100/day, 5 days for 3 years; 3 days for 7 years	21,600	
8.	Survey Team, 2 consultants at \$25,000/year, 1 year	50,000	
9.	OAS Direct Technical Assistance Missions, 2 consultants at \$25,000/year, 1 year	50,000	
10.	OAS Evaluation Missions, 2 consultants at \$25,000/year, 1 year	50,000	
11.	Employees' benefits	22,500	

Travel

Inter-American Advisory Committee

Fares

12.	3 U.S. consultants (in U.S.) at \$200/year, 10 years	6,000	
13.	3 Latin American consultants at \$573/year, 10 years	17,190	

Travel

Inter-American Advisory Committee

Per diem

- | | | |
|-----|--|----------|
| 14. | 3 U.S. consultants at \$25/day, 5 days for 3 years; 3 days for 7 years | \$ 2,700 |
| 15. | 3 Latin American consultants at \$25/day, 7 days for 3 years; 5 days for 7 years | 4,200 |

Conference of Cooperating Agencies

Fares

- | | | |
|-----|--|-------|
| 16. | 20 U.S. representatives at \$75, 3 conferences | 4,500 |
| 17. | 2 Latin American resource people at \$573, 3 conferences | 3,438 |

Per diem

- | | | |
|-----|---|-------|
| 18. | 20 U.S. representatives at \$25/day, for 2 days, 3 conferences | 3,000 |
| 19. | 2 Latin American resource people at \$25/day, for 4 days, 3 conferences | 600 |

Survey Team

Fares

- | | | |
|-----|-------------------------------------|-------|
| 20. | 2 consultants at \$1,200 for 1 year | 2,400 |
|-----|-------------------------------------|-------|

Per diem

- | | | |
|-----|---|--------|
| 21. | 2 consultants at \$24/day, for 365 days | 17,520 |
|-----|---|--------|

OAS Direct Technical Assistance Missions

Fares

- | | | |
|-----|--------------------------|-------|
| 22. | 2 consultants at \$1,200 | 2,400 |
|-----|--------------------------|-------|

Per diem

- | | | |
|-----|---|--------|
| 23. | 2 consultants at \$24/day, for 365 days | 17,520 |
|-----|---|--------|

Travel

OAS Evaluation Missions

Fares

24. 2 consultants at \$1,000, 2 missions \$ 4,000

Per diem

25. 2 consultants at \$24/day, for 365 days 17,520
(2 Missions, 1/2 year each)

26. Sub-total (Advisory Services) 297,088

Training Activities

Trainees

Subsistence

27. 48 trainees in U.S. at \$3,000/year, 2 years 288,000

28. 24 trainees in U.S. at \$3,000/year, 1 year add. 72,000

29. 3 dependents for each of 48 trainees in U.S., 76,800
spouse at \$400, children at \$200, 2 years

30. 3 dependents for each of 24 trainees in U.S., 19,200
1 year additional

31. 280 trainees in Latin America at \$2,550/year, 714,000
1 year

Travel

Fares

32. 48 trainees to U.S. at \$573 27,504

33. 3 dependents for each of 48 trainees to 82,512
U.S. at \$573

34. 280 trainees within Latin America at \$550 154,000

Tuition

35. 48 trainees in U.S. at \$1,800/year, 2 years 172,800

36. 24 trainees in U.S. at \$1,800, 1 year add'l. 43,200

37. 280 trainees in Latin America at \$200/year, 56,000
1 year

Books

38.	48 trainees in U.S. at \$100/year, 2 years	\$ 9,600
39.	24 trainees in U.S. at \$100/year, 1 year add'l.	2,400
40.	280 trainees in Latin America at \$100/year, 1 year	28,000
41.	Sub-total (Trainees)	\$1,746,016

Permanent Personnel

Salaries

42.	Program Director at U.S. library school at \$25,000/year, 9 years	225,000
43.	Secretary at \$8,000/year, 9 years	72,000
44.	Employees' benefits, 9 years	44,550
45.	Travel at \$1,500/year, 9 years	13,500
46.	Per diem 15 days at \$25/day, 9 years	3,375
47.	Sub-total (Permanent Personnel)	358,425

Consultants and Lecturers

Salaries

U.S. consultants at 6 Latin American library
schools

48.	2 consultants at \$25,000/year, 5 years (principal adviser and other consultant)	1,500,000
49.	1 consultant at \$25,000/year, 4 years	600,000
50.	6 lecturers (at 6 Latin American library schools) at \$25,000/year, each 1/2 year at 2 schools, 5 years	750,000

Allowances

51.	Consultants at \$10,950/year - 12 consultants, 5 years; 6 consultants, 4 years	869,800
	Post differential (10%)	\$2,000
	Quarters allowance	2,500
	Education allowance	600
	Transportation of car	500
	Transportation of personal effects	600
	Fringe benefits	3,750
	Miscellaneous expenses	<u>1,000</u>
		10,950

Allowances, cont'd.

52.	6 lecturers at \$4,500/year, 5 years	\$135,000
	Quarters allowance	\$2,500
	Miscellaneous expenses	<u>2,000</u>
		4,500
	Travel	
53.	U.S. consultants, 48 round trips at \$573	27,504
54.	Dependents (3 per consultant), 144 round trips at \$573	82,512
55.	15 U.S. lecturers at \$573	8,595
56.	15 non-U.S. lecturers at \$1,200	18,000
57.	Sub-total (Consultants and lecturers)	3,991,411
58.	Sub-total (Training Activities)	6,095,852

Library School Development

59.	U.S. library school, bibliographic materials, etc.	20,000
60.	6 Latin American library schools	600,000
	Initial expenditure	
	Books - 10,000 at \$6/vol.	60,000
	Periodicals - 50 titles at \$16 (current and previous 4 years)	4,000
	Audiovisual materials	500
	Laboratory equipment	2,000
	Equipment and furniture not available locally	8,500
	Annual increase \$5,000, 5 year	<u>25,000</u>
	Per school	100,000
61.	Sub-total (Library School Development)	620,000

General Costs

62.	Equipment - office equipment at \$6,000 for 2 offices (office of Program Coordinator, ALA; office of Program Director, U.S. library school)	12,000
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Supplies and materials

63.	Office of Program Coordinator at \$1,000/year, 10 years	\$10,000
64.	Office of Program Director at \$1,000/year, 9 years	9,000
65.	Survey Team	500
66.	Consultants at \$500/year at 6 schools, 9 years	27,000
67.	Sub-total (Supplies and materials)	46,500

Communication (telephone, telegraph, postage)

68.	Office of Program Coordinator at \$1,200/year, 10 years	12,000
69.	Office of Program Director at \$1,200/year, 9 years	10,800
70.	Survey Team	300
71.	Direct Technical Assistance Missions	300
72.	Evaluation Missions at \$150/mission, 2 missions	300
73.	Consultants at \$500/year, at 6 schools, 9 years	27,000
74.	Sub-total (Communication)	50,700

Duplication and reproduction (mimeographing, xeroxing, printing)

75.	Office of Program Coordinator at \$1,200/year, 10 years	12,000
76.	Office of Program Director at \$1,200/year, 9 years	10,800
77.	Inter-American Advisory Committee at \$500/year, 10 years	5,000
78.	Conference of Cooperating Agencies at \$500/conference, 3 conferences	1,500
79.	Survey Team	500
80.	Direct Technical Assistance Missions	1,000
81.	Evaluation Missions at \$500/mission, 2 missions	1,000
82.	Syllabi and teaching materials	50,000
83.	Sub-total (Duplication and reproduction)	81,800

Rent

84.	Office of Program Coordinator, 250 sq. ft. at \$8/sq. ft., 10 years	\$20,000
85.	Office of Program Director, 250 sq. ft. at \$8/sq. ft., 9 years	18,000
86.	Sub-total (Rent)	38,000
87.	Sub-total (General Costs)	229,000
88.	Sub-total. Direct Costs	7,648,940
89.	B. Contingency fund. 5% of "direct costs".	382,447
90.	C. Total direct costs.	\$8,031,387
	D. Indirect costs to be negotiated with cooperating agencies.	
	E. Grand total -	
	F. Cost sharing to be determined.	

APPENDIX E. BUDGET PROJECTION - 2. BUDGET JUSTIFICATION

1. Personnel salaries - approximate yearly cost. It is assumed that over the ten-year period various individuals will hold the respective posts, hence a graduated scale is not given.
13. Average round trip travel rate between Latin America and the United States is based on the rate from Lima to Washington, in accordance with OAS practice.
21. Per diem in Latin America is based on the local rate for Peru, in accordance with OAS practice.
29. Allowances for Latin American spouses and children are based on the OAS rate.
34. Average round trip travel rate between Latin American countries is based on OAS figures.
- 48- U.S. consultants at 6 Latin American schools - based on upgrading
49. of existing schools, rather than the creation of new ones.
51. Training activities, allowances - calculated on yearly rate. When consultants remain for several years, transportation costs are reduced.
53. Training activities, travel - consultants' travel is based on the premise that the normal period of consultancy will be no less than 2 years, renewable.
60. Library school development - total figure of initial expenditure will apply to new library schools to be created. Existing schools will already have some materials and equipment.

APPENDIX E. BUDGET PROJECTION - 3. ESTIMATED TEN-YEAR BUDGET SUMMARY

A. Direct Costs

Personnel

1.	Salaries	\$330,000	
2.	Employees' benefits	49,500	
3.	Travel	20,000	
4.	Per diem	7,500	
5.	Sub-total		407,000

Advisory Services

6.	Salaries and honorariums	171,600	
7.	Employees' benefits	22,500	
8.	Travel	39,928	
9.	Per diem	63,060	
10.	Sub-total		297,088

Training Activities

Trainees

11.	Subsistence	1,170,000	
12.	Travel	264,076	
13.	Tuition	272,000	
14.	Books	40,000	

Permanent Personnel

15.	Salaries	297,000	
16.	Employees' benefits	44,550	
17.	Travel	13,500	
18.	Per diem	3,375	

<u>Consultants and Lecturers</u>		
19.	Salaries	\$2,850,000
20.	Allowances	1,004,800
21.	Travel	136,611
22.	Sub-total	6,095,852
<u>Library School Development</u>		
23.	U.S. library school	20,000
24.	6 Latin American postgraduate library schools	600,000
25.	Sub-total	620,000
<u>General Costs</u>		
26.	Equipment	12,000
27.	Supplies and materials	46,500
28.	Communication	50,700
29.	Duplication and reproduction	81,800
30.	Rent	38,000
31.	Sub-total	229,000
32.	Sub-total. Direct Costs	7,648,940
33.	B. Contingency fund 5% of "direct costs"	382,447
34.	C. Total direct costs	8,031,387

APPENDIX E. BUDGET PROJECTION - 4. ESTIMATED BUDGET SUMMARY - PHASE 1 - PLANNING -
(YEAR 1)

Direct Costs

Personnel (International Relations Office, American
Library Association - AID Liaison)

1. Salaries	\$33,000	
2. Employees' benefits	4,950	
3. Travel	2,000	
4. Per diem	750	
5. Sub-total		40,700

Advisory Services

6. Salaries and honorariums	53,000	
7. Employees' benefits	7,500	
8. Travel	7,365	
9. Per diem	19,620	
10. Sub-total		87,485

General Costs

11. Equipment	6,000	
12. Supplies and materials	1,500	
13. Communication	1,500	
14. Duplication and reproduction	2,700	
15. Rent	2,000	
16. Sub-total		13,700
17. Sub-total. Direct costs		141,885
18. Contingency fund 5%		7,094
19. Total. Direct costs of Phase 1		148,979

DRAFT PROPOSAL OF A PILOT MULTILATERAL PROGRAM
FOR INFORMATION INFRASTRUCTURE DEVELOPMENT

It is proposed that a pilot five-year library/information systems survey and development program be carried out in at least two LDCs of varying degrees of economic and social development, supported by AID and an international consortium and administered by the American Library Association. The program would serve as a demonstration of the phased steps required to enable such countries to achieve the informational infrastructure necessary for high quality education and to assimilate scientific and technological information in accordance with their needs.

Survey/planning teams would be multinational and multidisciplinary in nature and would include not only librarians and information specialists, but educators, economists, sociologists and public administrators, working in tandem with host country counterparts. A preparatory workshop of multinational team members and host country counterparts would meet in Washington for a period of one month to six weeks for briefing and to lay the groundwork for the project. The joint teams would visit key libraries and information centers, and observe library automation programs and information transfer mechanisms.

The survey and planning missions once arrived in the host country would study the total range of library and information needs. Depending on the state of development of the country, the survey might range from Ministry libraries and information centers, those of specialized governmental institutes, as well as scientific and technical documentation

centers, university libraries, public and school libraries and even village information centers. As the survey would be tied closely to educational development, informational materials needed in programs of educational technology would come to light.

The phased program recommended would be evaluated by the cooperating agencies and an ALA-International Advisory Committee. The budget would then be established for the actual five-year development program to follow.'

PROPOSED PROCEDURE

1. ALA appoint an International Advisory Committee.
2. ALA convene a conference of potential Cooperating Agencies to:
 - a. Establish/approve procedures.
 - b. Select a pilot country (or countries) for technical assistance to develop library/information systems capability.
 - 1) Country should be one land mass.
 - 2) Country should have a national language.
 - 3) Country should have a climate of acceptance.
 - 4) Country should be willing and able to contribute some financing/services and later be willing to support developing program.
 - c. Determine extent of interest and support.
3. Select multinational, multidisciplinary survey/planning team (or teams) made up of:
 - a. Librarian
 - b. Information specialist
 - c. Educator
 - d. Economist
 - e. Sociologist
 - f. Public administrator
4. Host country select counterpart team.
5. One month - six weeks preparatory workshop in Washington of survey/planning team with LDC host country counterpart team to:

- a. Prepare tentative procedural plan of survey.
 - b. Arrange visits of survey and counterpart teams to key information/library centers.
6. Survey and planning missions to host country (6 months).
- a. Determine/establish long-range economic, social, educational goals of country.
 - b. Determine the state of library and information systems-- manpower, materials, services, capability of information dissemination.
 - c. Determine information capability required to reach long-range goals.
 - 1) Human resource development.
 - 2) Materials--print and non-print.
 - 3) Equipment, hardware.
 - 4) Evaluation of survey findings and preparation of five-year phased plan of information systems resource development.
 - 5) Preparation of guidelines for LDC self-analysis of information systems capability for use by other LDCs working toward accelerated economic and social development and to qualify for later technical assistance.
7. Initiate phased five-year plan for host country with needed professional and technical assistance from developed countries:
- a. Library/information specialist participant training in developed countries.

- b. Manpower development in country.
 - c. Upgrading of training facilities.
 - d. Institutional development at varying levels.
 - e. Assistance in selection, acquisition, organization, control, dissemination of information materials--print or non-print--for institutions at varying levels.
8. Evaluate annually progress in host country through meetings of members of survey team, representatives of host country, ALA and Cooperating Agencies.

POTENTIAL COOPERATING AGENCIES

Agency for International Development

Department of State

World Bank/International Development Association/International
Bank for Reconstruction and Development/International Finance
Corporation

Inter-American Development Bank

United Nations Development Program

United Nations Special Fund

United Nations Expanded Technical Assistance Program

UNESCO

Organization of American States

Inter-American Social Development Institute

British Council

Canadian International Development Agency

Foundations:

Ford Foundation

Council on Library Resources

Asia Foundation

LIBRARIES

in international development

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INTERNATIONAL RELATIONS OFFICE / AMERICAN LIBRARY ASSOCIATION

International Cooperation in Agricultural Libraries of Developing Countries

Olga Lendvay
National Agricultural Library

In many areas of the world, a serious attempt has been made, especially during the past decade, to develop the agricultural sciences. A great part of the activity has been a response to the pressing problem of providing food for ever-increasing populations. Individual countries, international institutions, foundations, and universities have cooperated in a variety of programs.

Libraries, especially in those institutions engaged in agricultural education and research, have assumed major importance in agricultural development. The administrations of these institutions have realized that their libraries should play an active part in the educational and research process and under more adequate conditions. Consequently, more financial support has been provided for their collections, staff, and services. Agricultural libraries in developing, as in developed countries, are a part of institutions engaged in agricultural education and research. Thus growth of these libraries in developing countries should be sought in connection with institutions of higher education in agriculture.

The Role of the Inter-American Institute of Agricultural Sciences

In Latin America, for more than a quarter of a century, the Inter-American Institute of Agricultural Sciences, IAIAS, (Instituto Interamericano de Ciencias Agrícolas), of the Organization of American States (OAS) has been assuming a leadership role in its member countries in the development of agricultural sciences on various levels. Significant achievements have been attained through its programs of training, research, and extension work. Almost from the beginning of its existence (1942), the IAIAS considered it important to give special attention to agricultural libraries and to the dissemination of agricultural infor-

mation in the OAS countries. As a first step, the IAIAS library at Turrialba, Costa Rica, was organized and has been offering services to the Institute's students and faculty. Later, a photoduplication service and the compilation of short bibliographies on a variety of agricultural and related subjects have been provided to scientists and others requesting them from Latin American and other countries.

An important service, which the library has been offering on a regular basis for more than a decade, has been the in-service training of librarians from agricultural institutions of the OAS countries. This service provided many libraries with trained personnel. Surveys of agricultural libraries in these countries have been conducted during the past decade for the purpose of establishing a network of libraries. Through a program of cooperation and coordination, information about library activities has been shared, and technical assistance in library organization has been provided. These activities have been accompanied by an effort to produce publications of professional interest and as a communications medium for librarians.

The IAIAS has been expanded and its activities decentralized in order to attain better administrative control and to give more effective attention to agricultural problems in different geographical locations and climatic conditions of the Latin American countries. These changes have resulted in grouping the countries by zones, and the establishment of IAIAS zone offices. Thus, many educational and research activities carried out at Turrialba have been transferred to other countries. Consequently, the local demands on the Institute's library have diminished.

In order to use the library's potential more adequately, a study sponsored by the Food and Agriculture Organization (FAO) of the United Nations is under

way, exploring the possibility of converting the library into an automated regional documentation center that would serve mainly the Central American countries.

All the previously mentioned activities carried out by the IAIAS library at Turrialba would not have been possible without outside financial help to supplement the library's budget. The Rockefeller Foundation has been giving valuable assistance to the library for the improvement of its collection, for the training of Latin American librarians at Turrialba and in the United States, and for special projects. The FAO and the Agency for International Development (AID) through their fellowship programs participated in the sponsorship of the training of agricultural librarians at Turrialba.

Program in Colombia

In Colombia, the Rockefeller Foundation initiated an agricultural program in 1950 and helped, over a period of nineteen years, in the development of the Colombian Institute of Agriculture in Bogotá. In 1970, a special committee with the participation of the national institutions, the Rockefeller Foundation, and the IAIAS was set up in Bogotá in order to study the feasibility of establishing and developing an agricultural documentation center, which would coordinate the activities in agricultural libraries and develop an effective system for dissemination of agricultural information on a national basis. The Agricultural Library of Colombia, which is the result of the committee's study, will function at the Colombian Institute of Agriculture in Bogotá.

The International Center of Tropical Agriculture, ICTA, (Centro Internacional de Agricultura Tropical), in Palmira, Colombia, has been established in recent years with the assistance of the Rockefeller and Ford Foundations. Its aim is to help in the development of research and training related to specific crops and animals. The objective of the Center's library is to make information available for the ICTA programs, and, through exchange of publications with other libraries, to serve as an international clearing house for scientific literature relevant to the Center's activities.

Research on Corn and Wheat in Mexico

The International Maize and Wheat Improvement Center (Centro Internacional de Mejoramiento de Maíz y Trigo) in Mexico started in 1963 as a cooperative program between the Rockefeller Foundation and the Mexican Ministry of Agriculture. It became an international institution in 1966. Its research activities are directed to the improvement and development of new varieties of the two world-wide used crops, corn and wheat. In order to support the Center's research activities, in 1967, the Rockefeller Foundation sponsored a three-year bibliographic project, a compilation of pub-

lications on these two crops published during a ten-year period, 1959-68. The bibliographies are now in press and are expected to be ready for distribution in the fall of 1971. They will comprise close to 43,000 references to books, periodical articles, and pamphlets published in 47 languages and will be easily accessible by a permuted subject index, in addition to the author and geographical indexes.

The International Rice Research Institute

In Asia, the International Rice Research Institute (IRRI) located at Los Baños, the Philippines, is now internationally known for developing high yield varieties and other achievements in rice research. The IRRI was the first in the series of international agricultural institutions established with the cooperation of the Rockefeller and Ford Foundations (1960). The IRRI library, with its very complete collection on rice, provides reference services on an international basis. It issues annual supplements to the basic bibliographic compilation of publications on rice, *International Bibliography of Rice Research* (1963), comprising literature of ten years. It also is active in the development of other agricultural libraries in that region.

Developments in India

Important international assistance in the development of agricultural sciences has been given to India in close cooperation between AID and the Ford and the Rockefeller Foundations. In 1951, the Ford Foundation began the Community Development Program, directed toward agricultural development, training, and self-improvement projects. The AID agricultural development program started in 1952 in support of the Community Development Program. It mainly concentrated on assistance in agricultural extension and extension training. It is now assisting eight of the ten new Indian agricultural universities. Each of the eight universities has a U.S. counterpart university contract team.

While the purpose of the Ford Foundation program was mainly oriented toward increased agricultural production, the Rockefeller Foundation's assistance to India since 1957 has been focused on the development of a postgraduate school in agriculture at the Indian Agricultural Research Institute (IARI) and the establishment of the ten new agricultural universities. It also has been cooperating in the national programs on the improvement of various cereal crops. In its support, the Rockefeller Foundation sponsored the compilation of bibliographies on millet and sorghum in 1967. More recently, the Foundation has been assisting in the development of a network of libraries in India, with the purpose of sharing agricultural literature relevant to the institutions engaged in educational and research activities.

The International Institute of Tropical Agriculture in Africa

In Africa, the construction of the International Institute of Tropical Agriculture (IITA) at Ibadan, Nigeria, started in 1968, with the assistance of the Rockefeller and Ford Foundations. It is mainly concerned with research on a variety of food crops and agricultural training in the humid tropics. The IITA library, now in the process of being organized, will undoubtedly have a significant influence on the development of other agricultural libraries in Africa.

Other Assistance to Agricultural Libraries

During the nine years, 1955-63, valuable assistance to agricultural and other libraries in the developing countries was given by the United States Book Exchange (USBE) with the assistance of AID. Lists of duplicate periodicals and books stored in the USBE warehouse in Washington were circulated to interested libraries. Many of these institutions were able to enrich and expand their collections by selecting publications from the lists, providing in return at least a token exchange of publications.

Another significant effort in the improvement of the flow of agricultural information and the development of an international system of agricultural information services is now under way. A study sponsored by the FAO and with the participation of the U.S. National Agricultural Library, the Commonwealth Bureau of Agriculture, and other institutions will provide data for implementation of such a system, which will benefit the developing countries.

The development of agricultural libraries is also one of the basic aims of the associations of agricultural librarians. While the associations of individual countries cope with the problems of the improvement of their libraries on a national basis, the Inter-American Association of Agricultural Librarians and Documentalists is active in the coordination of the national efforts mainly in Latin America. A larger body, the International Association of Agricultural Librarians and Documentalists, aims at the improvement of agricultural libraries on a world-wide basis. International library meetings and special projects of the associations are for the most part made possible through the financial assistance received from professional organizations, foundations, and international institutions.

This brief review of the international involvement in the development of agricultural libraries, emphasizing the international educational and research institutions, does not suggest that there is no interest or action on the part of the governments of individual countries in coping with the agricultural information problems without international participation. There is a considerable national effort in this direction going on in countries such as Argentina, Brazil, and others,

where the importance of libraries and the sharing of agricultural information is gaining recognition and support of national organizations. The degree of this effort can be measured by the speed of the economic development of these countries in general.

LIBRARIES

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INTERNATIONAL RELATIONS OFFICE / AMERICAN LIBRARY ASSOCIATION

A World Science Information System

The vital importance of scientific and technical information in the development of nations led to a cooperative study, by the United Nations Educational, Scientific and Cultural Organization (UNESCO), and the International Council of Scientific Unions (ICSU), on establishing a world science information system (UNISIST). UNISIST is considered as "an international movement toward increased voluntary cooperation among national and international participating services, using common rules and media." It would coordinate existing trends toward cooperation and act as a catalyst for future developments in scientific information. The four-year study was completed by the UNESCO/ICSU Central Committee, established in 1967.* The Committee concluded that, based on evidence submitted to it "an increased level of cooperation is an economic necessity" and "a world-wide network of scientific information services working in voluntary association" is feasible.

The "Information Explosion" Problem

Scientific and technical articles and reports are increasing so rapidly that scientists cannot keep abreast of the work of their colleagues. In addition, problems of distribution, understaffed and understocked libraries, and linguistic barriers impede access to information. Moreover, there is a cultural lag in the traditional information services—scientific journals, abstracting and indexing services, and libraries have not met the needs of the world scientific community. The interdisciplinary approach to problems, for example, of the environment, and the emerging needs of applied science require new and flexible forms of information services. The UNISIST study attempts to resolve these problems on a world scale.

* This article is based on a synopsis of that study: *UNISIST: Synopsis of the Feasibility Study on a World Science Information System*, UNESCO, Paris (1971).

Benefits of a World Science Information System

The alternative to investing more money in interdependent modern systems, as in UNISIST, is to invest more in independent outmoded methods. The planners of UNISIST concluded that the benefits resulting from a world-wide science information system outweigh the costs. The groups directly benefiting from UNISIST would be: developing countries; individual scientists; sponsors of scientific research; sponsors and managers of information systems; science educators.

For developing countries, possible benefits are: availability of technical assistance; assistance in developing information resources; manpower training programs; a reduction of the barriers to acquiring publications and materials; and the use of modern technology, such as transmission of information by satellite. Development of infrastructures in the developing countries to support the functions of sophisticated electronic retrieval systems are needed. Pilot projects are anticipated that would establish cooperative service centers linked to large electronic information retrieval systems.

For the individual scientist "better information means better science." His productivity and intellectual satisfaction are affected by the amount, pertinence, and quality of the information he receives. In supporting the improvement of access to information resources, developed countries are trying to reduce the duplication in research.

Sponsors of information systems would also benefit by savings through sharing the costs of input and centralization of processing, as well as through using the outputs of large systems to produce new services and products at small additional cost.

In regard to educators, transfer of information is at the heart of the educational process. In many scientific fields, education and research are inseparable at the

graduate level. UNISIST would provide accessibility to improved information resources for educators.

Improvement of the Tools of Systems Intercommunication

Six recommendations relate to the development of tools of intercommunication systems. (1) UNISIST adherents should be asked "to extend their efforts to survey information services of national, regional or international scope" and to provide for their "integration into a world referral network." (2) Consultations should be continued "within the framework of UNISIST to accelerate international efforts through the International Organization for Standardization (ISO) towards the achievement of standard codes and formats for the representation of bibliographic elements in machine systems, and of unified transliteration rules, character sets, and other related matters." (3) "An international registry of scientific periodicals should be established as a basis of a system for the normalization of the citations of the journal literature of science and technology." (4) The attention of scientists is drawn to "the need for joint efforts in developing better tools for the control and conversion of national and indexing languages in science and technology." A few pilot projects in this field are encouraged. (5) Computer and information systems experts should be consulted to aid in resolving issues concerned with "machine standards for systems interconnection in agreement with ISO." (6) The "present trends and future potential of telecommunication and teleprocessing networks for the transfer of scientific information" should be considered.

Strengthening the Effectiveness of Information Services

The recommendations in regard to this program relate to the strengthening of libraries, abstracting services, translation centers, information analysis centers, and data evaluation centers. (1) A strong scientific library system is "an essential component of scientific information transfer." (2) Abstracting, indexing, and translations services should be strengthened. Cooperative schemes for sharing such work should be encouraged. (3) Specialized information centers for "the evaluation and synthesis" of published information should be developed. (4) Numerical data centers "must be provided for in any future network of information services."

Responsibility of Professional Groups

The recommendations to carry out the program for the development of human resources are directed to strengthening the professional groups. (1) Authors and editors of scientific journals have a special responsibility for maintaining the quality of their journals and should cooperate with other groups in information processing. (2) International federations of scientific

societies should exert influence on their members to participate in programs to improve world-wide information transfer. (3) A concerted effort is needed "to provide information specialists, librarians, and documentalists with improved educational facilities." It might be desirable to provide "internationally oriented training and educational assistance" programs, possibly by pooling resources regionally. (4) The efforts of national and international organizations to conduct or support research on information science should be encouraged.

Responsibility of Government

This group of recommendations is addressed to governments, as they only can undertake the recommended actions. (1) A governmental agency at "the national level to guide, stimulate, and conduct the development of information resources and services" should be established. These agencies should adhere to "the principles and goals of UNISIST." (2) One of the goals of UNISIST should be the world-wide availability of scientific data. To accomplish this goal, the cooperative operation of scientific and technical libraries, information analysis centers, and data centers across national frontiers would be required. Governmental agencies should, therefore, encourage programs that will integrate "document, information or data sources into comprehensive systems in which every scientific library or center may ultimately be used as an access point, or node in a switching network." (3) Governmental agencies should "give increased attention to the requirements of modern information transfer networks, using advanced processing and communication facilities." Bilateral or multilateral cooperation among UNISIST adherents should be developed. (4) Pricing policies of scientific information services should be studied to observe their effects on user access to information. (5) National scientific information agencies should "reduce unnecessary restrictions on the circulation of information." They should reduce legal barriers such as national copyright laws and ultimately evolve an international "doctrine of fair use."

International Assistance to Developing Countries

UNESCO and ICSU required the UNISIST study to give special attention to the needs of developing countries. Thus one program objective is to provide assistance to those countries "by helping them to develop minimum bases of scientific information, and by developing pilot projects in cooperation with other United Nations agencies."

Two recommendations relate to this program. (1) To develop the minimal infrastructure that a country must have to participate in the benefits of an international network, developing countries should: (a) establish "a central scientific and technical information agency, responsible for planning and coordinating the development of information resources;" (b) establish "cooper-

ative agreements with other countries;" (c) promote "the adoption of standards, methods and procedures that might facilitate the integration of information sciences into a worldwide network." (2) In regard to the scientific and information needs of developing countries, UNISIST should (a) "provide a forum where ongoing programmes of assistance to library and information services in developing areas may be discussed irrespective of their organizational support;" (b) "propose guidelines for the establishment and management of effective information networks in developing countries;" (c) "take part in the design of a few pilot projects, together with other competent international organizations, aimed at assessing effective approaches for linking developing countries with UNISIST."

Organization of UNISIST

One element of the study relates to UNISIST management. The recommendation relating to it states the organizational requirements of UNISIST.

In order to implement the recommendations set forth above in regard to its programs, UNISIST "should be provided with three interrelated managerial bodies: (a) an intergovernmental conference responsible for approving UNISIST's programmes and reporting on their progress; (b) an international scientific advisory committee, with a strong representation of ICSU and member unions, as well as information experts and services, charged with the responsibility of assessing progress in communication practices and changes in user requirements, as a basis for, and as a result of UNISIST programmes; (c) an executive office, serving as the permanent secretariat of UNISIST, responsible for preparing and administering programmes and budgets. This last body should be placed in the administrative set-up of UNESCO within the Science Sector."

The recommendations outlined above indicate two broad functions of UNISIST: (1) a catalytic function by which UNISIST is to stimulate international cooperative agreements among autonomous information systems; and (2) an initiating function by which UNISIST will initiate new projects designed to develop new tools, pilot experiments, and systems design studies to improve the environment in which international cooperation will take place.

The objectives of the UNISIST program listed above are largely short-range. The long-range goal of the program is to develop an integrated, international network of information services in all fields of science, designed according to advanced techniques of systems analysis.

As a step toward establishing such a system, an Intergovernmental Conference for the Establishment of a World Science Information System (UNISIST) will be held in Paris, France, October 4-9, 1971.

APPENDIX F.

LIBRARY SCHOOLS IN LATIN AMERICA

ARGENTINA

Curso de Bibliotecarias
Biblioteca del Consejo de Mujeres de la República Argentina
Buenos Aires, Argentina

Carrera de Ciencias de la Información
Facultad de Filosofía y Letras
Universidad de Buenos Aires
Buenos Aires, Argentina

Escuela de Bibliotecología
Facultad de Servicio Social
Universidad del Museo Social Argentino
Buenos Aires, Argentina

Escuela Nacional de Bibliotecarios
Biblioteca Nacional
Buenos Aires, Argentina

Escuela de Bibliotecarios
Facultad de Filosofía y Humanidades
Universidad Nacional de Córdoba
Córdoba, Argentina

Carrera de Bibliotecarios
Facultad de Humanidades y Ciencias de la Educación
Universidad Nacional de La Plata
La Plata, Argentina

Escuela Superior de Bibliotecología de la Prov. de Buenos Aires
Ministerio de Educación de la Provincia de Buenos Aires
La Plata, Argentina

Escuela de Bibliotecarios
Instituto de Profesiones Técnicas "20 de Junio"
Ministerio de Educación y Cultura de la Prov. de Santa Fé
Rosario, Argentina

Escuela de Bibliotecología
Universidad Popular de Rosario
Rosario, Argentina

Curso de Bibliotecología
Universidad Nacional de Tucuman
San Miguel de Tucuman, Argentina

Escuela de Bibliotecología
Ministerio de Educación y Cultura de la Provincia
Sante Fé, Argentina

BRAZIL

Escola de Biblioteconomia
Universidade Federal do Pará
Belem, Pará, Brazil

Escola de Biblioteconomia
Universidade Federal de Minas Gerais
Belo Horizonte, M.G., Brazil

Faculdade de Biblioteconomia e Informação Científica
Universidade de Brasília
Brasília, D.F., Brazil

Faculdade de Biblioteconomia
Universidade Católica de Campinas
Campinas, S.P., Brazil

Curso de Biblioteconomia e Documentação
Universidade do Paraná
Curitiba, Parana, Brazil

Curso de Biblioteconomia e Documentação
Universidade do Ceará
Fortaleza, Ceará, Brazil

Curso de Biblioteconomia e Documentação
Universidade Federal do Estado do Rio de Janeiro
Niteroi, R. de J., Brazil

Escola de Biblioteconomia e Documentação
Faculdade de Ciências Econômicas
Universidade do Rio Grande do Sul
Pôrto Alegre, R.G.S., Brazil

Faculdade de Biblioteconomia e Comunicações Culturais
Universidade Federal de Pernambuco
Recife, Pernambuco, Brazil

Curso de Biblioteconomia da Biblioteca Nacional
Ministério da Educação e Cultura
Rio de Janeiro, GB, Brazil

Escola de Biblioteconomia e Documentação
Instituto Santa Ursula
Universidade Católica de Rio de Janeiro
Rio de Janeiro, GB, Brazil

Escola de Biblioteconomia e Documentação
Universidade Federal da Bahia
Salvador, Bahia, Brazil

BRAZIL (cont.)

Escola de Biblioteconomia e Documentação de São Carlos
São Carlos, S.P., Brazil

Escola de Biblioteconomia
Fundação Escola de Sociologia e Política de S. Paulo
São Paulo, S.P., Brazil

Curso de Biblioteconomia
Escola de Comunicações Culturais
Universidade de São Paulo
São Paulo, S.P., Brazil

COLOMBIA

Escuela Interamericana de Bibliotecología
Universidad de Antioquia
Medellín, Colombia

CHILE

Carrera de Biblioteconomía
Centro Universitario Regional
Universidad de Chile
Antofagasta, Chile

Escuela de Biblioteconomía
Universidad de Chile
Santiago, Chile

Carrera de Biblioteconomía
Centro Universitario Regional
Universidad de Chile
Temuco, Chile

ECUADOR

Escuela de Bibliotecología
Facultad de Filosofía, Letras y Ciencias de la Educación
Universidad de Guayaquil
Guayaquil, Ecuador

GUATEMALA

Escuela de Bibliotecología
Facultad de Humanidades
Universidad de San Carlos de Guatemala
Guatemala, Guatemala

MEXICO

Colegio de Biblioteconomía y Archivonomía
Facultad de Filosofía y Letras
Universidad Nacional Autónoma de México
México 20, D.F., México

Escuela Nacional de Bibliotecarios y Archivistas
Secretaría de Educación Pública
México, D.F., México

PANAMA

Escuela de Bibliotecología
Universidad de Panamá
Panamá, Panamá

PERU

Escuela Nacional de Bibliotecarios
Biblioteca Nacional del Perú
Lima, Perú

URUGUAY

Escuela Universitaria de Bibliotecología y Ciencias Afines
Universidad de la República
Montevideo, Uruguay

VENEZUELA

Escuela de Biblioteconomía y Archivos
Facultad de Humanidades y Educación
Universidad Central de Venezuela
Caracas, Venezuela

Curso de Biblioteconomía (?)
Universidad Nacional del Zulia
Maracaibo, Venezuela

APPENDIX G. BIBLIOGRAPHY

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POSTGRADUATE LIBRARY EDUCATION FOR LATIN AMERICA;
IMPLICATIONS FOR ECONOMIC AND SOCIAL DEVELOPMENT

Cooperating Agencies

Attachment to Draft Proposal

May, 1971

POSTGRADUATE LIBRARY EDUCATION FOR LATIN AMERICA;
IMPLICATIONS FOR ECONOMIC AND SOCIAL DEVELOPMENT

Cooperating Agencies

The ten-year program for the establishment of up to six postgraduate library schools in Latin America, described in the accompanying proposal prepared by the American Library Association, would hopefully have the cooperation and support of various agencies of the United States Government, national and international organizations, private foundations - entities whose programs would be furthered by a more telling use of books and libraries in Latin America. Prior consultations have not been held with these agencies to determine their interest and the extent of their cooperation.

There follows a list of proposed cooperating agencies with possible areas of interest:

American Library Association (ALA)

Advisory services

Inter-American Advisory Committee

Co-sponsorship with AID and Department of State

of Conference of Cooperating Agencies

U.S. Government

Agency for International Development (AID)

Co-sponsorship with ALA and Department of State of Conference of

Cooperating Agencies

Administrative funds

Program Coordinator

Agency for International Development (AID), cont.

Preliminary survey of library schools in Latin America

University contracts between U.S. university where

centralized training program will be given and 6

Latin American universities where graduate library

schools will be established

Teams of U.S. library-professor-consultants at 6 Latin

American library schools

Regional Technical Aids Center (RTAC)

Translation (or adaptation)/publication of library

science titles in Spanish

Republication of out-of-print library science

titles in Spanish

National Textbook Program, Brazil (COLTED)

Translation (or adaptation)/publication of library

science titles in Portuguese

Fellowships - Latin Americans to U.S. library school,

to Graduate School of Librarianship, Puerto Rico,

and to graduate library schools when established

Library school development (furniture, equipment, books,

periodicals, audiovisual materials, laboratory equipment)

Department of State

Co-sponsorship with ALA and AID of Conference of Cooperating

Agencies

U.S. Specialists and Fulbright lecturers for special

courses to be given at Latin American Graduate schools

United States Information Agency (USIA)

Book presentations

Library films

Governments of the Latin American Republics

Fellowships - Latin Americans to U.S. library school,
to Graduate School of Librarianship, Puerto Rico, and
to graduate library schools in Latin America when
established

Organization of American States (OAS)

Library Development Program

Advisory services

Questionnaire to Latin American library schools

Publications

Direct Technical Assistance Missions - advisory services
to Latin American library schools selected, as to what
is needed to upgrade them to graduate status

Evaluation Missions

Regional Program for School and University Library
Development

Fellowships - Latin Americans to U.S. library school,
to Graduate School of Librarianship, Puerto Rico, and
to graduate library schools in Latin America when established

Council on Library Resources, Inc.

Preliminary survey of library schools in Latin America

United Nations Educational, Scientific and Cultural
Organization (UNESCO)

Advisory services

Commissioning of writing of needed library science
texts and publication in Spanish and Portuguese

Translation (or adaptation)/publication in Spanish
and Portuguese of library science texts not written
in English or published in U.S.

Audiovisual materials (such as those prepared at
Library Research Center, University of Buenos Aires)

Books

Equipment

Non-U.S. lecturers for special courses to be given
at Latin American graduate library schools

United Nations and its other Specialized Agencies under
Technical Assistance, Development Fund, and Regional
Programs

Fellowships

Books

Foundations

Program Director at U.S. library school

Consultantships at Latin American graduate library schools

Lecturers at Latin American graduate library schools

Foundations, continued

Fellowships - Latin Americans to U.S. library school,
to Graduate School of Librarianship, Puerto Rico,
and to graduate library schools in Latin America when
established

Library school development (quarters, furniture, equipment,
books, periodicals, audiovisual materials, laboratory
equipment)

Regional Organizations

Organization of Central American States

Unión de Universidades de América Latina (UDUAL)

Consejo Superior de Universidades de Centroamérica (CSUCA)

Inter-American Development Bank (IDB)