

CEPAL/CARIB 78/5

Regional Co-operation
for
Access to Information
in the
Caribbean

**Papers presented at the
Meeting of Librarians and Documentalists
29 November — 2 December 1977
Port-of-Spain, Trinidad**



UNITED NATIONS

ECONOMIC COMMISSION FOR LATIN AMERICA Office for the Caribbean
Caribbean Development and Co-operation Committee
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ECONOMIC COMMISSION FOR LATIN AMERICA
OFFICE FOR THE CARIBBEAN

REGIONAL CO-OPERATION FOR ACCESS TO INFORMATION
IN THE CARIBBEAN

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INTRODUCTORY NOTE

This collection of papers is seen as a contribution to the vital issue of access to information which is essential for the socio-economic development of the Caribbean.

It presents the views and criticisms of information personnel and policy-makers who met in Trinidad and Tobago last November to examine the information needs for socio-economic development at the national and sub-regional levels and the extent to which these needs are met. The obstacles to endogenous development of information systems were also analysed and discussed, and the general opinion of the meeting was that solutions were to be sought through regional co-operation.

It is hoped that the distribution of these papers will lead to a greater awareness of the problems of information, and that urgent and positive action will be taken to alleviate these problems.

Port of Spain, October 1978

REPORT OF THE MEETING

REPORT ON MEETING OF
LIBRARIANS AND DOCUMENTALISTS

29 November - 2 December 1977
Port of Spain, Trinidad and Tobago

MANDATE

1. The Second Session of the Caribbean Development and Co-operation Committee (CDCC) held in Santo Domingo, Dominican Republic, from 16 to 22 March 1977, agreed "to convene a Meeting of Regional Experts (Librarians and Documentalists) to finalize details on the orientation and scope of the Caribbean Documentation Centre in relation to existing needs for co-ordination and development".^{1/} Accordingly, under the joint sponsorship of the Economic Commission for Latin America and the United Nations Educational, Scientific and Cultural Organization, the meeting took place in Port of Spain, Trinidad and Tobago on 29 November to 2 December 1977.

ATTENDANCE ^{2/}

2. Representatives of the following member countries of the Committee attended the meeting: Bahamas, Barbados, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Republic of Cuba, and Trinidad and Tobago. Representatives of Belize, Dominica and Montserrat attended as Associate Members and the Netherlands Antilles as Observer.
3. Representatives of the Caribbean Community Secretariat (CARICOM) and the Caribbean Development Bank (CDB) also attended the meeting.
4. A representative of the UNESCO Office also attended the meeting.
5. In addition, special consultants were also present.

^{1/} Report of the Second Session of the Caribbean Development and Co-operation Committee (CDCC) /E/CEPAL/CDCC/21/Rev.17

^{2/} The full list of participants, observers and guests appears in appendix 1.

6. The Agenda for the meeting was as follows:
 1. Opening address
 2. Information as a regional resource
 3. Information needs of Caribbean policymakers including national information priorities
 4. Information facilities in the Caribbean
 5. Regional co-operation on information services.

ORGANIZATION OF WORK

7. At the plenary sessions, papers were presented and formed the basis of discussions. Oral presentations on some country facilities were also made. The list of papers presented is given in appendix II.

8. General discussions followed the presentation of the papers. It was then agreed to have detailed discussions in Workshops of the following specific topics:

1. Priorities and prerequisites for development planning
2. Identification of resources in the Caribbean and obstacles to endogenous development of information systems
3. Sub-regional institutions: their inter-relations and their relations with non-Caribbean institutions.

9. A demonstration was made of an experimental on-line link to major information resources in data banks located abroad. This demonstration was organized by UNESCO in collaboration with CONACYT-Mexico and was carried out concurrently with the meeting. A representative of CONACYT explained the techniques applied in the transfer of information by these methods and emphasized that such an installation would serve mainly to reinforce national information resources and was not a substitute for them. Delegates were invited to submit queries, answers to which were searched in the variety of data bases linked to the Tymnet system, which was in turn connected via Mexico to Port of Spain and served as the telecommunication network for the demonstration.

RECOMMENDATIONS AND DECISIONS

10. The meeting unanimously agreed to the following reports and recommendations of the Workshops:

Report of Workshop "A"

Priorities and Prerequisites for Development Planning

1. The Workshop expressed agreement with the proposal for the establishment of a Caribbean Information System as described in the paper put forward by the CDCC Secretariat, entitled "The Caribbean Documentation Centre and Regional Co-operation for Information", and considered it more relevant to discuss the mechanisms for implementation of the proposed system, than the subject matter suggested by the Secretariat, under the heading "Priorities and Prerequisites for Development Planning".

2. Some of the delegates felt that the broad subject areas to be considered of prime importance by the information system should be science and technology, socio-economic information and cultural data. Within these broad categories the Secretariat should establish specific priorities based on requests and needs from member governments.

It was agreed that there is an urgent need not only to co-ordinate the existing information systems in the sub-region, but also to create new information; that is to say, to stimulate research and intensify the production of data in identified priority areas. The lack of cultural data necessary for the nation-building process, and the lack of knowledge related to national cultures were viewed with concern. It was underlined that the interchange of information need not be impeded by the ideological direction of Caribbean states, particularly with reference to science and technology. The problem of the non-use of knowledge, and of its inaccessibility and unavailability to various types of users should not be overlooked.

3. The Workshop felt that it was a matter of course that the Caribbean Information System should aim at the creation of an informed society.

4. There was agreement on the urgent need for institutionalizing regional co-operation as far as information is concerned and for strengthening national systems. It was pointed out that this meeting, mandated by the CDCC, provides a unique occasion for putting forward clear cut recommendations in relation to the development of information sciences in the Caribbean. It was also pointed out that sub-regional co-operation, interchange of ideas and experience and mutual assistance in the development process, cannot be achieved if national information systems are

not strengthened through vigorous actions by member governments, supported where necessary by external assistance. Mandates given at a sub-regional level were interpreted to indicate, in a broad sense as a first step towards the establishment of a national information policy and a commitment to implement such a policy.

5. In view of the weakness of information infrastructure in some countries, the Workshop insisted on the need to give special attention to this category of countries in the setting up of Caribbean information networks, which should be specifically geared to reducing the level of disparity in development between different National Information Systems. Such a strategy would, at the same time, guard against inhibiting the more advanced national information systems.

6. It was recommended that the Workshop endorse the proposal contained in Paper No. 6, and qualify it by a commitment to adopt a "pump priming" role in relation to less developed national systems. The significance of the work done by the ECCM Secretariat was acknowledged, and its possible co-ordinating role in this aspect underlined.

7. It was proposed that the next step would be for the ECLA Office for the Caribbean to prepare a document identifying the minimum elements and obstacles to the implementation of the recommendations emanating from the UNESCO Conference on NATIS, held in Jamaica (1975). The document should also elaborate concrete steps to be taken in the present circumstances towards the setting up of machinery for sub-regional co-operation in the field of information. It was emphasized that the Workshop is not requesting another survey but a specific feasibility study along the lines proposed.

8. It was agreed that Paper No. 6 represents a compromise solution between the "grand design" of a sophisticated information system, and a strategy predicated on the progressive development of rudimentary systems from the "bottom up". Such a strategy was received as being more appropriate to the circumstances prevailing in the Caribbean today.

Recommendations

9. Consistent with the mandates of the Caribbean Development and Co-operation Committee (CDCC), to stimulate an endogenous process of development in Science and Technology and in Social and Economic Sciences, it is recommended that a Caribbean information system covering these areas be established.

10. It is also recommended that appropriate emphasis be given to the cultural aspects of development, which are viewed as being indispensable to the processes of nation-building, and the Caribbean integration process. It is accepted, however, that the specific demand of participating Caribbean countries will, in due course, determine the specific emphasis in the initial stages of growth of such an information system.

11. It is further recommended that due emphasis be given to the creation of knowledge and the stimulation of knowledge and research, since very important dimensions of the Caribbean societies are still unexplored.

12. The institutionalization of sub-regional co-operation in the field of information sciences is urgent. The Workshop endorsed the creation of a Caribbean Information System aimed at creating an informed Caribbean society. It is recommended, in this context, that the projected sub-regional system be specifically geared towards the strengthening of national information systems.

13. The Workshop welcomed and endorsed proposals put forward by the ECLA Office for the Caribbean, and recommends that concrete steps be taken to implement them. The following measures are recommended to accelerate realization of the Caribbean Information System proposed in the above-mentioned paper:

- i. that the CDCC countries and particularly the LDC's be encouraged to formalize, to the extent possible, their existing information systems;
- ii. that an interim working party be appointed preparatory to the establishment of the Congress:
 - (a) to identify the essential characteristics of national information units relevant to actualization of sub-regional co-operation. The working party would also propose guidelines for the different organs proposed for the Caribbean Information System;
 - (b) to study the concrete linkage of the Caribbean Documentation Centre with existing structures, with the active involvement of the less-developed national systems, and to study the ways in which such structures, could be integrated with the projected Caribbean Information System;

- (c) to identify the barriers which have so far prevented the implementation of proposals for national information systems, and to initiate with the assistance of available expertise in the sub-region a programme of direct assistance to overcome these barriers. Priority to the less developed national systems should be given to the extent possible;
- (d) that the working party together with such national and international assistance available, involve itself directly with the programming of development of the mentioned systems in CDCC countries, with particular attention to the need of less developed national systems;
- (e) that the working party should seek to establish the scope and specific priorities of the Caribbean Information System; and
- (f) that the CDCC Secretariat, in consultation with the working party, prepare recommendations for the necessary funding by Caribbean governments and external agencies over the next triennium for the Caribbean Information System.

14. Since the mandates of the CDCC for action at the sub-regional level in the field of information cannot be implemented without "topping up" at the national level, the Workshop further recommended:

- i. the representatives of each country undertake to propose the early establishment of a national advisory committee to stimulate governmental action in their territory for the development of national information systems and support of the Caribbean Information System;
- ii. that the CDCC Secretariat and the nucleus of the Caribbean Documentation Centre undertake to stimulate the formation and support the action of each territorial committee.

Report of Workshop "B"
Identification of Resources in the Caribbean and
Obstacles to Endogenous Development of Information Systems

1. The Working Group devoted its efforts to the identification of obstacles to the development of information infrastructures in the majority of the countries. These obstacles can be classified under the following headings:

- i. Political - Lack of Government commitment to the establishment and continuing support of national information policies.
- ii. Socio-cultural - Lack of a clear conception of the role of information by Caribbean societies as a whole; traditional dependence on external sources of information which are not always relevant to local needs; language barriers which prevent the sharing of information.
- iii. Economic - Lack of sufficient, guaranteed, and continuing budgetary support for information-related activities.
- iv. Organizational - Lack of local information infrastructure, insufficient numbers of adequately trained staff; inadequate knowledge of existing and needed information resources; absence of user education programmes; absence of guidelines, standards, common norms and methodologies for establishment of national and sub-regional programmes.

2. It is recommended that viable lines of action to overcome these obstacles are:

- a) the design and establishment of national information policies backed up by suitable legislation to guarantee their implementation;
- b) the appointment, by the government of each country, of an advisory body responsible for the promotion and implementation of the national information policy;
- c) obtaining bibliographic control of nationally produced publications, conventional and non-conventional, within the frameworks of the UNISIST guidelines;
- d) creation of training programmes designed to educate information specialists and users at all levels;

- e) the establishment of mechanisms to ensure collaborative efforts at regional levels for information sharing (development of common bibliographic tools, compilation of directories, etc.: co-operative cataloguing programmes, exchange of publications);
- f) the active participation by governments in any international programmes offering assistance in the establishment of information systems (e.g. UNESCO, CLADES);
- g) the taking into consideration of problems of information creation and transfer when CDCC develops its removal of language barriers programme.

3. Up-grading of National Archives

The results of UNESCO's Archives and Record Management Programme (ARMP) which is expected to be launched in 1979, could be used for the up-grading of the region's archive and record management activities. It was also pointed out that, subject to approval by the UNESCO General Conference, a pilot project for a co-ordinated library and archives development programme would be set up in the Caribbean region. The LDC's representatives request that particular attention be paid to their needs in the development of this project.

4. The meeting noted that there was need for a Code of ethics relating to the right of individuals and groups to have access to information. It requested the Secretariat to obtain information on this matter from international sources and to make this available to member countries.

Report of Workshop "C"
Sub-Regional Institutions, their inter-relations
and their Relations with Non-Caribbean Organizations

1. This Workshop consisted of three persons: the librarians of the Caribbean Community Secretariat (CARICOM), the Caribbean Development Bank (CDB), and the ECLA/CDCC Secretariat. The group examined the extent to which their collections and services overlapped, and attempted to seek solutions to avoid duplication of resources and to determine areas of specialization. It was agreed that while the three Caribbean co-ordinating agencies (i.e. CARICOM, CDB and ECLA/CDCC) overlap in their spheres of interests, as is reflected in the holdings of their documentation centres, there are different areas of emphasis relative to their work programmes and priorities as mandated by governments.

2. The Libraries of these institutions will therefore co-operate where possible, in specific areas, so as to optimize the use of resources and avoid the duplication of effort in the dissemination of information.

3. To this end the libraries have agreed:

- to rationalize the acquisition and effective utilization of current awareness services; to share the results of bibliographical endeavours; to ensure that these Documentation Centres are kept aware of the restricted material emanating from their respective institutions;
- to develop a strategy for sharing resources as far as non-Caribbean material is concerned.

4. The Working Group also felt that the CDCC should take positive steps to initiate action by the Governments of the Region to secure and service the presently unused collection now known as the Caribbean Regional Library formerly that of the Caribbean Commission. This collection, now housed in Puerto Rico, is vital to the development process in the Region.

11. The meeting recommended that the CDCC Secretariat take the necessary action with Governments either jointly or severally, or with organs and agencies of the United Nations System, or with other organizations involved in information systems in order to implement the above recommendations as early as possible.

LIST OF PARTICIPANTS

1. Member States of the Committee

BAHAMAS

Kevin Higgins, Economist, Economic Planning Unit
Hyacinth Winder, Assistant Librarian, Ministry of
Education and Culture

BARBADOS

Chalmer St. Hill, Chief Librarian, Public Library
Gladstone E. Pollard, Senior Assistant Secretary
Ministry of Education

DOMINICAN REPUBLIC

Miriam Michel de Campusano, Director, Technical Department
of CENTROMIDCA
Martha Maria de Castro Cotes, Chief, Technical Department,
National Library, and Director of
Bibliographic Services of the National
Autonomous University of Santo Domingo

GRENADA

Princess A. Abraham, Specialist Librarian, Ministry of Education
Spencer C. Edwards, Teacher-Librarian, Schools Library Centre
Ministry of Education

GUYANA

George C. Simon, Principal Assistant Secretary
Ministry of Information
Jean Craigwell, Librarian, National Archives

HAITI

Agousse Telfort, Librarian, Central Planning Office of the
National Council for Development and Planning (CONADEP)
Anne Marie Prudent, Director, Department of External Affairs Library

JAMAICA

Henry Fowler, Deputy Permanent Delegate to UNESCO, Paris
Sheila I. Lampart, Executive Secretary, National Council on
Libraries, Archives and Documentation Services
Maitland Rose, Senior Systems Analyst, Ministry of Education
Myrtle Hazle, Planner (Education), National Planning Agency

REPUBLIC OF CUBA

Lázaro Pérez Tápanes, Director-General of Scientific and
Technical Information of the State Committee
of Science and Technology
Luis Pensado Bec, Director-General of Planning of the
State Committee of Science and Technology
Gerardo Fernández, Documentalist, Documentation Centre
Ministry of External Affairs

TRINIDAD AND TOBAGO

Lynette C. Hutchinson, Director of Library Services,
Ministry of Education and Culture
Patricia Raymond, Librarian, Ministry of Finance (Planning and
Development)
Grace Bason, Senior Planning Officer, Ministry of Finance (Planning
and Development)

2. Associate Members of the Committee

BELIZE

Roland Lisle Clarke, Assistant Secretary, Ministry of Education
and Culture
José Orlando Puga, Economist, Ministry of Finance and Economic Planning

DOMINICA

Cornelia Henry-Williams, Acting Librarian, Dominica Public Library

MONTSERRAT

Violet Jane Grell Librarian, Public Library

3. Observers

NETHERLANDS ANTILLES

Rose Mary de Paula, Director, Public Library, Curacao

4. Caribbean Inter-Governmental Organizations

Caribbean Community Secretariat (CARICOM)

Carol Collins, Librarian

Caribbean Development Bank (CDB)

Nancy St. John, Librarian

Eric Armstrong, Senior Economic Statistician

5. United Nations System

A. Specialized Agencies

United Nations Educational, Scientific and Cultural Organization (UNESCO)

Lincoln Earle Samarasinghe, Chief, Section for Development of
Information Infrastructures, General
Information Programme, UNESCO

B. CEPAL System

Economic Commission for Latin America (ECLA)*

Hamid Mohammed

Jean Casimir

Edda Wollstein

Raoul G. Nelson - ECLA, Washington

Wilma Primus

Elizabeth de Gannes

* ECLA Office for the Caribbean, Port of Spain

Latin American Centre for Economic and Social Documentation (CLADES)

Julio Cubillo

6. Special Guests

University of the West Indies (UWI)

J. Edward Greene, Deputy Director, Institute of Social and
Economic Research, UWI, Jamaica

Alma Jordan, Librarian, UWI, St. Augustine, Trinidad and Tobago

Alan Moss, Acquisitions Librarian, UWI, Barbados

University of Guyana

Joel P. Benjamin, Assistant Librarian

International Development Research Centre (IDRC)

Shahid Akhtar

Lynette Yip Young

Ricardo Cifuentes

7. Technicians for On-line Demonstration
(Courtesy UNESCO)

Enzo Molino (CONACYT)

Patricia Garza (CONACYT)

LIST OF DOCUMENTS

- Paper No. 1 - Information Needs of National Policymakers
Economic Planning - Market Economy Countries
by Eric Armstrong, Senior Economic Statistician,
Caribbean Development Bank
- Paper No. 2 - Plans for the Co-ordination of Library and
Information Services in Jamaica by
Sheila I. Lampart, Executive Secretary,
National Council on Libraries, Archives and
Documentation Services
- Paper No. 3 - The Role of the University Library in Meeting
Government's Information Needs for Development
by Yvonne Stephenson, Librarian, University
of Guyana
- Paper No. 4 - Documentation for Economic and Cultural Development
in Belize by the Government of Belize
- Paper No. 5 - Existing Facilities for Meeting the Information
Needs of Planners and Policymakers -, CARICOM
Member Countries by Carol Collins, Librarian,
Caribbean Community Secretariat
- Paper No. 6 - The Caribbean Documentation Centre and Regional
Co-operation for Information by Wilma Primus,
Documentalist/Librarian, ECLA Office for the
Caribbean
- Paper No. 7 - The Inventory as an Instrument of Change: The
Case of Development Information and Documentation
Infrastructures in Latin America by the Latin
American Centre for Economic and Social
Documentation
- Paper No. 8 - Information: The Neglected Resource by
Shahid Akhtar and Lynette Yip Young, Information
Sciences Division, International Development
Research Centre
- Paper No. 9 - Regional Networks in the Fields of Information by
L.E. Samarasinghe, Chief, Section for Development
of Information Infrastructures, General Information
Programme, UNESCO
- Paper No. 10 - Information Systems Existing in the Dominican
Republic by Pedro Gil Iturbides/Dra. Martha M. de
Castro Cotes, Director/Representative, National
Library, Dominican Republic

- Paper No. 11 - Methodological Scheme for the Economic Planning of the Activity - Scientific and Technical Information by Luis Pensado Bec, Director-General of Planning of the State Committee of Science and Technology, Cuba
- Paper No. 12 - Some Comments on the State of Information Services Development in Guyana by Jean Craigwell, Librarian, National Archives
- Paper No. 13 - Information Needs of Caribbean Policymakers in the Field of Science and Technology by Dr. Ken S. Julien, Chairman, National Advisory Council, Trinidad and Tobago
- Paper No. 14 - A Framework for Caribbean Regional Co-ordination in Information Services by Dr. Alma Jordan, Librarian, University of the West Indies
- Paper No. 15 - Conception of the National System for Scientific and Technical Information of the Republic of Cuba by Lázaro Pérez Tápanes, Director-General of Scientific and Technical Information of the State Committee of Science and Technology, Cuba
- Paper No. 16 - Report of Workshop "A"
- Paper No. 17 - Report of Workshop "B"
- Paper No. 18 - Report of Workshop "C"
- Paper No. 19 - Draft Report of Meeting
- Paper No. 20 - Barbados and Regional Co-operation in the Library and Information field by Chalmer St. Hill, Chief Librarian
- Paper No. 21 - Problems of Documentation in Haiti by Agousse Telfort, Librarian, CONADEP

INFORMATION NEEDS OF NATIONAL
POLICY-MAKERS ECONOMIC PLANNING
- MARKET ECONOMY COUNTRIES

Prepared by
Eric Armstrong
Senior Economic Statistician
Caribbean Development Bank

INFORMATION NEEDS OF NATIONAL POLICY-MAKERS
ECONOMIC PLANNING - MARKET ECONOMY COUNTRIES

by Eric Armstrong

Outline

It appears to be the policy of most Governments in the CARICOM region to pursue measures that would adequately feed, clothe and house their people, as far as possible, taking into consideration the resources of the country. In fact, one Government has indicated a time limit to implement this policy. It is against this background that some suggestions are made with respect to data requirements if these objectives are to be realised.

The focus of this Paper will therefore be directed towards the data required by CARICOM Governments, in particular those of the LDC's, to enable them to take the far-reaching decisions which are necessary if the planning process is to be made more efficient and effective. It is proposed to describe briefly the major economic and social problems currently facing the Governments and to indicate some of the information they would need in order to arrive at meaningful solutions to these problems.

The basic data needed by the planners will not be essentially different whether they are preparing a properly conceived budget or a five-year development plan. It is to be pointed out that the capital section of the annual budget has far-reaching implications with respect to the recurrent budget in future years; for example, the construction of a school or hospital necessitates the employment/training of additional teachers, doctors, nurses as well as increased expenditure in terms of consumables, drugs, etc. Moreover, the capital budget is indicative of the goals of the Government's development policy.

Background

Planning and Statistical Departments exist in almost every country in the CARICOM Region. However, the size of the Departments as well as the quality and volume of their published

and unpublished work vary to a large extent. This variation stems from the fact that, because of financial constraints, several Governments are unable to allocate adequate financial resources to these departments.

Consequently, the technical expertise required to man them cannot be recruited and also the crucial surveys and studies required for planning cannot be undertaken. As a result of these deficiencies, the data are usually inadequate for effective planning.

Information Needs

Levels of Living

In order to appreciate the development problem it is desirable to have basic social and economic indicators to provide this background information. In assessing the levels of living, one must view the situation not only in terms of per capita income but in its broadest sense. One must look at the distribution of this income among the population of the country. Account must also be taken of the extent of the availability of services provided by the Government or private enterprise, such as Education, Health, Water Supplies, Telephones, Electricity, etc. In addition, it is necessary to look at certain other indicators, for example, life expectancy at birth, infant mortality rates, morbidity rates, number of doctors and dentists per person, and even the distribution of these as between the main city and other areas, the existence of institutions for social security, etc.

Food Balance Sheet

Information is already collected on a regular basis on imports of food, etc., but data relating to production of food for local consumption and export are sparse. It will therefore be necessary to undertake a census of agriculture, with periodic surveys, to establish the output of food marketed and consumed on the farm. In addition, information is also required on the fishing industry.

The above information is useful for several purposes. In the first place, the planners, with the assistance of nutritionists, can determine whether the per capita caloric consumption is adequate and whether the population has a balanced diet. Secondly, the surveys will indicate, inter alia, the crops grown, the volume not harvested and the level of output per acre on the farms. This information will provide

some guide to policy-makers as to the future direction of an agricultural policy, such as incentives for growing specified crops, pricing policy, fertilizer subsidies, new marketing arrangements, etc.

National Accounts and Balance of Payments Estimates

Up-to-date national accounts estimates, preferably in constant prices, are essential for policy-makers since these aggregates give some indication of the level and rate of development of the economy of the country as well as the structure of the economy. At the international level, these estimates are crucial because the types and quantum of grants and loans depend to a large extent on per capita income criteria.

In addition to these estimates and arising out of them, an input/output table should be constructed. Depending on the availability of statistical data, the aim should be to provide in as many sub-sectors as possible, information relating to agriculture, manufacturing and tourism, that is, the major and dynamic sectors in the Caribbean context. This table is a powerful tool in the planning process because it provides information on the inter-relationship of the various sectors in the economy. It can also be used to forecast what effects various policy decisions will have on the structure and development of the economy.

During the past two years the overseas reserves of some countries have deteriorated to such an extent that these Governments have had to resort to emergency measures to protect the dwindling reserves. In a situation such as this, planners need monthly balance of payments estimates to monitor the inflow and outflow of funds so that corrective measures could be taken immediately. The components of the balance of payments on current account which would need careful scrutiny are: visible trade, investment income, travel and private transfer payments.

Prices

Throughout the region Governments have established price controls on a limited range of consumer commodities, that is, the wholesale and retail margins, and information is collected and published on a regular basis with respect to these commodities. However, in addition to this information, planners need data on transport margins and distributive margins on the other consumer items as well as on intermediate and capital goods.

It is also necessary to undertake a household budget survey, if the existing one is out-of-date. This survey, in addition to providing the data necessary for the compilation of consumer price indices, will give an indication of the pattern of consumption expenditure, household budgeting and the level of household savings.

Agriculture

The level of output of the Region's traditional export crops, that is, sugar, bananas, citrus and cocoa, has not increased appreciably within the last ten years and in fact the output of some of these crops has actually decreased. At the same time, the value and volume of food imports have increased substantially and the Region is now a net importer of food. While adverse weather conditions and the high prices of fertilizers and chemicals have had some influence on the production levels, the major problems appear to be low levels of productivity accompanied by high wage rates.

Since agriculture is the main employer of labour and one of the chief earners of foreign exchange, it cannot be permitted to die a slow death and urgent measures based on reliable data must be taken to revive the industry.

At the regional level, the Regional Food Plan is seen as "the continuing evolution of a strategy of development of the agricultural sector through co-ordination of national policies and the implementation of projects at the national level to satisfy targets that have been defined in relation to certain regional objectives." The regional exercise therefore consists largely of identifying those aspects of national programmes which could most efficiently and economically be satisfied by a group approach.

If the objectives of the Plan (which is really a programme) are realised there should be a major breakthrough in respect of the production of fruit and vegetables, cereal and grain legumes, seed propagation, livestock and hatching eggs.

At the national level, marketing arrangements of locally produced fruit and vegetables seem to be somewhat disorganised with periods of surpluses and shortages and also high levels of spoilage. Investigations into the feasibility of the canning of these crops need to be intensified as well as research into the lengthening of their storage life. It is also necessary for the planners to work out some scheme whereby farmers are guaranteed fixed prices for designated crops grown in specified areas and delivered to the Marketing Organization during certain periods. This implies that Government must be in a position to enforce zoning restrictions and the acreages planted under the designated crops.

Fishing

Fish is probably the main source of animal protein in the diet of the poorer section of the community and it is ironic that so little is known about the sector; for example, estimates of the total catch landed or for that matter the number of boats and fishermen involved in the industry.

At the regional level, three feasibility studies have been conducted aimed at exploiting the three main off-shore fishing resources in the Region, namely:

- (i) the Guyana banks;
- (ii) the Western Caribbean banks (Cayman Islands, Turks and Caicos Islands and Belize);
- (iii) the Leeward Islands banks.

At the country level, information is required with respect to the total catch landed, species of fish caught, number of fishermen engaged in the industry, the number and types of boats,

that is, canoes, sail, outboard or inboard motors. It is also important to discover from the fishermen what problems they encounter in the industry and what assistance they might require from Government to make the industry more productive.

Mining

Although the mining sector is of great importance to the economy of Trinidad and Tobago, Jamaica and Guyana, it is only recently that serious research has been undertaken in this field. Since minerals are wasting assets, it is essential to prolong their life and at the same time to receive the maximum return from their exploitation so that this wealth can be used in the meantime to diversify the economy.

It is therefore necessary to have some indication of the estimated reserves of these minerals as well as the annual volume of extraction. Moreover, information is required, in respect of the consuming countries, of the various uses of these minerals, the availability of existing substitutes, and research into the possibility of new substitutes, and also the percentage of our production to total world production. This information can assist planners in making recommendations concerning pricing policies, royalty and other tax measures and rate of extraction.

Manufacturing

Great reliance has been and is still being placed in the Region on industrialisation as a means of diversifying the economy. The strategy envisages the manufacture of a wide range of products not only to satisfy the demands of the regional market but also for extra-regional markets. In spite of the incentives offered over a number of years, the sector has not developed as rapidly as had been expected. The question therefore is, what can be done to promote more rapid growth in the sector?

It seems clear that the offering of generous incentives and concessions is not enough inducement to encourage the large-scale location of industry in the smaller countries of the Region. It may well be that in view of small size of the internal market and limited natural resources, they might have to concentrate on the canning of locally produced fruit and vegetables and cottage industries and enclave industries.

Whatever the solution might be, plans should be devised which would ensure that there are greater linkages within the economy, particularly between the agriculture, manufacturing and tourism sectors.

The information which planners require on a regular basis from enterprises in this sector would include -

- the value and volume of output;
- the sources and value of raw materials used as well as the value of other inputs;
- the number of employees;
- utilised capacity of plant and equipment.

Tourism

Within the past two decades the Governments have attempted to promote tourism not only to diversify the economy but also as a means of creating employment and the earning of foreign exchange. They have been somewhat successful but in some of the LDCs constraints, such as the lack of night landing facilities and jet airports have retarded the full development of the industry.

The time has now come when there must be a serious re-examination of this sector to formulate a new strategy for the further development of the industry. Of necessity, there must be policy decisions relating to the types of new tourist accommodation required, for example, holiday villages, large hotels, small or medium-sized hotels or guest houses, the number of tourists which will be permitted in the country during the year taking into consideration existing and projected infrastructure such as water, sewerage, electricity and roads; the markets and market segments in which promotion should be intensified or explored.

At the planning level, it is necessary to have a proper classification of the existing hotels and the rates charged; monthly hotel occupancy rates; the average length of stay of visitors; the number by categories of employees in the industry by type of hotel

some indication of the value of locally produced goods and services purchased by hotels. The most important information required by the planners would be a recent tourist expenditure survey. This will indicate the impact of the industry on the economy and also show the extent of the leakage of the tourist dollar. The survey can also provide a guide as to the countries where tourist promotion should be intensified because of the pattern of expenditure and length of stay of tourists from each country can be identified.

Housing

The movement in the population from the rural areas to the urban areas in search of employment has created an acute housing situation. There is not only the prevalence of over crowding but also the creation of shanty towns accompanied by poor sanitary conditions, a lack of other basic amenities and malnutrition. The planners are thus faced with the dilemma whether investment should be concentrated in the rural areas to make conditions more attractive and remunerative to stem or reverse the rural-urban drift or whether to divert the scarce financial resources to provide adequate housing, health and educational facilities in the urban and suburban areas.

In any event, the planners require information not only on the stock of houses and their existing facilities, but also data on the age of these structures, their type and condition and the number of inhabitants per house. They also require information with respect to the conveniences in the houses, such as water, toilet facilities, electricity, etc.

Manpower Requirements

It is almost impossible to prepare a plan unless one has some idea of the local availability of skills for each sector of the economy and some indication of the skills which would be required during the plan-period. It will therefore be seen that manpower planning is intimately linked with educational planning. In a small open economy it is difficult to make projections for the private sector because the owners of local enterprises "claim" they are unable to make long-term projections because of the uncertainty of the world economic conditions or Governments' tax policy. Manpower planning for the public sector is equally difficult in the absence of a long-term development plan.

Notwithstanding these frustrations, some effort has to be made to collect information on the current availability of skills (the results of the 1970 Population Census can be used as a first approximation if more up-to-date data are not available), and surveys should be undertaken to determine future requirements using best/worst assumptions on the future of the economy. As a last resort, planners might use available information for a country which is at the same stage of development as their own. This might not be the most elegant way to determine manpower requirements, but this information can be used as a guide as to the skills which are likely to be required.

Within the context of manpower planning, it is desirable to have data on productivity. This information should be on a sectoral basis, indicating whenever possible productivity on a volume basis in addition to a value basis. This information can be used as a guide in determining the mix between labour and capital as well as the types of projects which should be undertaken by Governments, especially if unemployment is a serious problem.

Unemployment and Underemployment

One of the most serious problems in the Region today is that of unemployment and underemployment. Regular surveys carried out in the MDCs show that the situation has reached alarming proportions with no signs of abatement. Although studies have not been undertaken in the LDCs to quantify the extent of the problem, it is well known that it is quite serious. However, planners have very little information in the sociological aspects of the problem. They need to know the attitude of the unemployed, in particular, the school leavers and other young persons, towards work and their aspirations, since vacancies in certain sectors of the economy remain unfilled in spite of the high level of unemployment. It is also desirable to have some indication from employers, particularly manufacturers and those in the construction industry, of the types of skills they might require in the future. Such information could be invaluable not only to educational planners, in respect of the curriculum of existing

educational institutions and the planning of courses in polytechnics, but also to career guidance officers.

Redistribution of Income

It is estimated that the per capita income of the CARICOM Region is over US\$1,200 in current terms which is extremely high compared with several countries in Asia, Africa and Latin America. In spite of this relatively high income there are entrenched pockets of poverty, malnutrition, and generally high unemployment and it appears that the gap between the rich and the poor has not been closing as quickly (if it is closing at all) as is socially and politically acceptable. While the situation has not yet reached an explosive level, it is evident that steps must be taken to ensure a more equitable distribution of wealth.

The solution to the problem is by no means an easy one and difficult political decisions must be made which will have far-reaching national and international consequences. The task of the planners is equally difficult in respect of obtaining the required data on the following:

- (a) existing distribution of income;
- (b) land tenure;
- (c) the extent of foreign ownership, particularly those enterprises in the productive sectors and banking;
- (d) the level of investment of the foreign-owned firms;
- (e) the employment practices of large enterprises.

The core of the problem is essentially one of the location of economic decision-making. It is conceivable, although highly unlikely, that decisions made, especially by foreign enterprises, with respect to investment, profitability and wage rates will coincide with the goals and policies of the Government. Consequently, any Government which aims at a rapid transformation of the economy, including the redistribution of income and wealth, will eventually have to pursue a policy of nationalisation to achieve these goals.

Inflation

Since 1973 the high rate of inflation has been a source of concern for all Governments and although the rate of inflation slowed down somewhat in

1976, it appears that this relief might not continue in 1977. Some of the factors which point to this assessment are:

- (a) wage and salary increase unaccompanied by productivity growth;
- (b) the effect of rising fuel prices on heavily fuel-dependent services and production, as well as on imports from extra-regional sources;
- (c) the effect of adverse weather conditions on agricultural output within affected countries with consequent effects on demand; and
- (d) the inability of some countries to maintain subsidies on key commodities at their former levels.

The planners of the CARICOM Region have recently discussed the high rate of inflation and suggested that while the implementation of most policies and measures to control inflation had to be done at the national level, a regional approach to the problem was important. The measures they recommended to deal with the problem included:

- (a) fiscal restraint;
- (b) prices and incomes policies;
- (c) increased production;
- (d) bulk purchasing;
- (e) balance of payments support; and
- (f) concessional sales of essential goods by partner countries.

Conclusion

The object of this paper was to present in a very summarised manner the basic information needed by planners in the Region. It will be noted that the surveys and research suggested have been economic oriented; however, while I appreciate that social surveys such as in music, art, culture, etc. could in cases be even more important, since development is really concerned with people, I did not feel competent to make suggestions in this area.

It is necessary to re-emphasise that the suggestions are by no means comprehensive, but it is considered that if the data obtained from these surveys are available to economic planners they would have a greater appreciation of the state of the economy and would be in a better position to make policy recommendations.

In several of the countries, data collected by Departments or Ministries, either as a consequence of a statutory requirement or for a specific purpose are not made available to the Planning and Statistics Departments. In other instances, data are collected and published by Statutory Bodies but are of little planning value because of the manner in which the information is tabulated and presented. A case in point, is information relating to the National Provident Funds. Published information shows the number of persons who have contributed to the Scheme during the year and the amounts contributed. However, there is no sectoral breakdown of this information and it is necessary to go to the original records to obtain this classification.

It is suggested that the Planning and Statistics Departments should be at all times involved in the collection, tabulation and presentation of statistical information. It is further suggested that those countries which do not have a Statistics Law should have one enacted as soon as possible. The Law should contain severe penalties for not supplying information when requested by the Planning and Statistics Departments.

As has already been mentioned, the Planning and Statistics Departments in the LDCs are seriously understaffed. Unless these Governments allocate some of their understandably scarce financial resources to the Departments, not only for employing qualified staff but also for conducting surveys and undertaking research, planning will continue to be done on an ad hoc basis. It is equally important that the Printing departments should be modernised so that the results of surveys could be printed and widely circulated. It is pathetic that in some countries the Trade reports have not been printed since the late 1960s.

PLANS FOR THE CO-ORDINATION OF LIBRARY
AND INFORMATION SERVICES IN JAMAICA

Prepared by
Sheila I. Lampart
Executive Secretary
National Council on Libraries,
Archives and Documentation Services, Jamaica

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INTRODUCTION

The subject of this paper was originally defined as "Existing National Facilities for Information in the Social and Economic Field." However, since major collections in this field have already been well documented by Bennett,^{1/} Douglas,^{2/} Robinson,^{3/} and others, the change to "Plans for co-ordination of these services including Science and Technology" was welcome.

Recognition of the need for the co-ordination and integration of information services in Jamaica resulted in decisive action by the Prime Minister in 1973 when he appointed the National Council on Libraries, Archives and Documentation Services. This move was further strengthened in 1974 when Government "accepted as policy the pursuance of activities which will lead to the effective provision or improvement of national information systems which can be accommodated within the national budget."

It was therefore most timely when the National Council, with the invaluable assistance of UNESCO Consultant, Dr. Dorothy Collings, produced the Plan for a National Information System (NATIS) for Jamaica which was officially presented to the Minister for Culture and Information on April 29, 1977. Criteria for the formulation of the integrated national information system were that it should:

- (i) effectively meet the priority needs of the nation;
- (ii) retain the best features of the existing information services;
- (iii) involve as widely as possible persons engaged or interested in the improvement of libraries, archives and information services as well as available subject and specialised expertise; and
- (iv) be flexible and responsive to change.

National Priorities

Jamaica, the largest island of the English-speaking Caribbean, occupies an area of 4411 square miles and is populated by approximately two million people. Agriculture, Mining and Manufacturing make the greatest contributions to the national economy. As in most developing countries, areas of concern are the rapidly increasing population, inadequate housing and educational facilities, widespread illiteracy, low levels of skilled personnel and a high rate of unemployment.

Today, Jamaica is attempting to achieve economic and social reconstruction based on self-awareness, self-confidence and self-reliance involving all its people at all levels - researchers, policy-makers, planners, administrators, practitioners and workers.

In this context, there is a vital need for education and training in many disciplines and at all levels and the provision and dissemination of information which is an indispensable tool for social and economic reconstruction.

Wide Participation

The formulation of the Plan involved a wide cross-section of persons - librarians, archivists, documentalists, researchers, educationists, publishers and other persons in related fields - who served on one or more of ten working parties set up to assist in the task. Each working party dealt with a particular type of library or major topic of concern and made an invaluable contribution by providing background information and statistics, indicating how the services could contribute to the national information system and proposing recommendations for action in the short, medium and long terms. The working party reports form annexes to the Plan.

The Draft Plan based on the recommendations of the working parties was then circulated to librarians throughout the island, members of the working parties and other interested persons for discussion, comments and suggested revisions at a seminar organized for the purpose. The final revision incorporated many of the suggested revisions.

Government Approval

The Government of Jamaica has recently given approval to the document and has authorised the National Council "to move ahead towards implementation, bearing in mind the financial constraints of the country at the present time."

This introduction attempts to provide a suitable context in which to present the plans for co-ordinating library and information services in Jamaica, with particular reference to the social and economic field and including science and technology. The paper, therefore, consists of an amalgamation of the relevant recommendations of the Plan and pertinent sections of the Reports of the Working Parties which substantiate these recommendations.

NATIONAL ORGANIZATIONAL FRAMEWORK (See Chart appended)

The Council has recommended the implementation of a national organizational framework designed to co-ordinate and/or integrate library and information services with particular reference to government-aided library services.^{4/} The main objective is to obtain greater effectiveness and more economical use of limited resources while at the same time maintaining the significant traditions and specific functions of individual library services.

The proposal envisages a series of networks which will form the National Information System. In keeping with the principle of building on existing strengths and useful experience, three well-established systems are to be maintained and further developed to make a more meaningful contribution to the whole.

These are:

- (i) The Jamaica Library Service which now maintains a union catalogue and organizes inter-library loans to serve the users reached by its 535 service points, and provides library services to government supported primary and new secondary schools. The scope of these services is to be expanded to include all government-supported secondary schools and to provide centralised purchasing and cataloguing services to seven teachers' colleges.

Further development to be encouraged is an up-to-date and comprehensive union catalogue (of at least non-fiction works) conforming to international bibliographic standards. It must also be appreciated that this network with its many service points throughout the country, provides convenient outlets for the dissemination of information.

- (ii) The Libraries of the University of the West Indies, Mona, will co-ordinate the collections of the main library and all special and departmental libraries located on campus; and maintain a union catalogue, at least of main entries, of all the holdings of these libraries. Jointly, these collections are the largest and richest source of recorded knowledge and information in Jamaica, and it is therefore most encouraging to note the positive stand that the Mona Libraries (which form part of a regional University) are willing to take with regard to participation in the national information system of Jamaica.

Services currently extended to other libraries by the University Library are inter-library loans, photocopying services, distribution of accessions lists to selected libraries, extension of reading and reference facilities to individuals outside the University and telephone inquiries of a 'quick' reference nature.

Within the limits of its resources, the University Library is willing to be designated the national resource for foreign publications in the areas of their various specialities, and in subjects which are exclusively or almost exclusively within its domain, e.g. Clinical Medicine, Natural Sciences, Foreign Languages and Literature, Bibliography and Librarianship, while the Humanities and Social Sciences, though not exclusively represented in the campus libraries, are nevertheless to be found there in a variety, richness and depth not equalled elsewhere in Jamaica.

Provided the physical facilities at the Mona Libraries are improved, and adequate professional staff is available the University Library is also prepared to provide reading areas and reference facilities for consulting its West Indian and special collections, its Government Serials, United Nations Documents and documents of other international organizations. The University Library also recognises that it should take a prominent part in promoting bibliographical standardization and a national programme for the conservation and preservation of research material.

In the application of the newer forms of technology, the University has already taken the lead in exploring the feasibility (a) of automating and computerising the technical processes of its libraries, and (b) of establishing

links by telephone or satellite with data bases of bibliographical or abstracted information. This has been done with the assistance of the U.S.A.I.D., and future developments will depend largely on the measure of overseas aid received in this highly technical and expensive field. It should be clear therefore that the Mona Libraries have much to contribute to a co-ordinated national system of libraries and every effort will be made by the Council to bring about the conditions which will ensure their participation and leadership role in the national information system.

- (iii) The Jamaica Archives will continue to maintain the national archives and will be responsible for the administration of the expanded records management service and the proposed Records Centre.

The national archives constitute an indispensable national resource for historical research and the expertise is available to help the agencies of government to plan good functional record-keeping systems.

These two basic roles of the national archives are of special significance in Jamaica, where economic and social development is to a great extent guided and supported by government and much depends on governmental administrative effectiveness.

The Jamaica Archives has for long functioned as an integral part of the information system by making its contents and facilities available at all times, primarily to the government agencies it serves, as well as to private organizations and individuals.

Current developments, fully supported by the National Council, are:

- (a) new archives legislation scheduled to be tabled in Parliament in the 1977/78 programme and designed to provide a modern legal foundation for continued maintenance of the national archives and the administration of an expanded Records Management Service and Records Centre;
- (b) financial provision by an international agency for:
 - technical assistance in the area of Records Management;
 - training for Registry officers and staff of the Jamaica Archives;
 - training assistance in preservation techniques.

In the context of the national information system the Jamaica Archives will therefore play a significant role in establishing an effective system of records management in government and quasi-government agencies to ensure the preservation of records of permanent value (both for present administrative and later research uses), and the regular systematic disposal of ephemeral records with the resulting release of costly office storage space and equipment for current records.

- (iv) A fourth network system to be established is designed to link community colleges and technical and vocational schools with a focal point at the College of Arts, Science and Technology (C.A.S.T.), which will be responsible for compiling and maintaining a union catalogue of the holdings of the constituent parts of the network.

It seems likely that C.A.S.T. should eventually become the focal point also for co-ordination of the libraries of the proposed College of Jamaica, including the Jamaica School of Agriculture and the seven teachers' colleges.

National Library of Jamaica

The most important gap in the basic structure of Jamaica's national information system is the lack of a National Library so designated by law and with its functions and responsibilities clearly defined. Legislation for the establishment of the National Library of Jamaica has been incorporated in the Institute of Jamaica Amendment Act 1977, scheduled to be tabled in Parliament in the 1977/78 programme.

The Plan for a National Information System (NATIS) for Jamaica strongly recommends that the West India Reference Library (WIRL) should be restructured and designated the National Library of Jamaica. Some of the reasons put forward in the Report of the Working Party are as follows:

- (a) the WIRL already has by far the largest collection of materials, issued in and about Jamaica, which now exists anywhere in the world as well as one of the most extensive collections relating to CARICOM countries and territories;
- (b) since its establishment in 1894, WIRL has provided an indispensable source of information for scholars, writers, artists, government officials and others engaged in creative work and historical research;

- (c) WIRL already performs several of the essential functions of a national library: for example -
- the quarterly publication of the Jamaica National Bibliography based on WIRL's acquisition of Jamaican material and in accordance with the requirements of International Standard Bibliographic Descriptions for Monographs and Serials (ISBD);
 - creation of its own data bank, Automated Index Retrieval Services (AIRS), based on the computerised index to the Daily Gleaner and application of the computer to circulation data, i.e. list of users of WIRL;
 - production of a number of important works including bibliographies, documentaries and exhibitions, based on its holdings;
 - exchange of publications.

Role of the National Library of Jamaica
in the National Information System

In addition to the traditional functions of a national library with particular emphasis on the oral history, musical and other recordings of our present situation as it emerges from our folk tradition, the National Library of Jamaica will be responsible for:

- (a) co-ordination, upgrading and overall supervision of the libraries of government and quasi-government bodies under functional sub-systems representing subject groupings;
- (b) stimulation of the development of libraries in the private sector (e.g. business, industry, professional organizations), and encouraging their participation and co-operation to strengthen the national information system and in turn receive appropriate services;
- (c) operation of a National Referral System, comprised of sub-systems based at strong existing libraries, designed to provide rapidly on request the location of needed materials and organize inter-library loans;
- (d) provision of access to local and foreign data banks and on-line systems in co-operation with the University of the West Indies and other organizations, public and private, having such facilities.

Section (a) concerns the libraries of government and quasi-government bodies which presently constitute the weakest link in the national information system and require the greatest organisation and co-ordination.

For this reason and because of their number and variety, two Working Parties were assigned to study and report on these libraries, one dealing with information sources in science and technology and the other with government and special libraries (exclusive of science and technology).

Members of these Working Parties supplemented the Council's ongoing survey of these services by visits, interviews and expert personal knowledge and submitted their findings and recommendations as follows.

Government libraries vary widely in value and effectiveness with clearly evident gaps and unnecessary duplications. Four basic problem areas were identified: insufficient as well as few qualified staff with little or no provision for training or career opportunities; few assigned budgets for acquisition of material and operational costs; a lack of clearly defined objectives and responsibilities; and severely overcrowded quarters, poorly equipped. The wasteful results of the establishment and operations of many of these libraries, often in isolation from each other, are clearly evident.

In view of Jamaica's limited resources, it is urgent that all possible sources of scientific, technical and developmental information be made readily accessible. A thorough re-organisation of government libraries should be urgently considered by the National Council in close co-operation with relevant policy-making government officials and qualified librarians in the field. To this end, the Plan also recommends that "the services of a senior-level expert consultant with extensive administrative experience in this field should be sought for at least six months to prepare a systematic phased development plan for and guide the start of its implementation."

Concurrently, it is recommended that the following stages of development be undertaken on a phased basis:

- (i) Grouping of libraries into sub-systems of the national information system with a well-organised library, directed by qualified staff, designated as the focal point to assist in the co-ordination and development of the sub-system.

It is felt that without undue delay, and in advance of the provision of substantial funds which may be needed for adequate staff, premises and collections development, important immediate improvements can be made in rationalising these libraries by such means as planned acquisitions of journals, expensive reference tools and other materials (to end unnecessary duplication), the start of uniform cataloguing and the establishment of union catalogues.

Examples of the types of groupings envisaged are:

- (a) The various departments within a Government Ministry, e.g. Ministry of Justice;
 - (b) Government Ministries and quasi-government bodies with the same subject coverage but operating under different Ministries, e.g. Urban Development Corporation, Town Planning Department, Ministry of Housing, National Housing Trust;
 - (c) Government and private sector, e.g. Ministry of Mining, Alcan Technical Centre.
- (ii) Development of subject networks for Science and Technology, Physical Planning, Social and Economic Sciences and the Legal Field. It is envisaged that the Humanities would be taken care of jointly by the main University Library and the National Library of Jamaica.

The Scientific Research Council (SRC) is already taking active steps and seeking overseas financial support for the establishment of networking arrangements for co-ordination of Information Services for Science and Technology. The Technical Information Service (TIS) of SRC will form the focal point for a number of relevant sub-systems - Agriculture, Mining, National Resources, Conservation, Health and Medicine, and Industry.

By Law, inter alia, SRC is required:

- (a) to collect, collate and review information concerning scientific research schemes or programmes relevant to the development of the resources of the island;
- (b) to establish and maintain a scientific information centre for the collection and dissemination of scientific and technical information.

Current publications include an annual report which lists Reports generated by its various divisions, some of which are subsequently published as Technical Papers; a semi-annual journal which is a vehicle of expression for scientists in the community; and a bi-monthly accessions list formerly an abstracting journal. SRC also provides limited SDI services.

SRC will maintain a union catalogue of the science and technology information in the island. This will be achieved by each co-operating sub-system sending bibliographic details of the contents of their centres to SRC, which will provide accessibility to local resources by acting as a Switching System - i.e. procuring material located in another unit of the network or as a Referral System, i.e. informing the user where the information can be located.

SRC will also establish links with the Science Centre of the Institute of Jamaica, the Science Library at the University of the West Indies, with other similar agencies both public and private and a direct link with the proposed computer facilities at U.W.I.

Already SRC has begun to implement a short term recommendation and has obtained financial provision for a Seminar on "User Education" to inform all persons concerned of the facilities already available, and of the proposed plan for development of the Science and Technology Network.

Other current developments in sub-systems of this network are as follows:

The Ministry of Agriculture Library, as the national input centre for the International Information System for the Agricultural Sciences (AGRIS) and the Inter-American Information System for the Agricultural Sciences (AGRINTER), provides a monthly bibliographical list of agricultural publications, including periodicals, issued in Jamaica (with the exception of extension material). This library has also been named liaison centre for the Current Agricultural Research Information System (CARIS).

The National Resources Conservation Department Library of the Ministry of Mining and National Resources now participates as the national focal point for the International Referral System (IRS) of the United Nations Environment Programme (UNEP), submitting regularly to Nairobi for incorporation in the International Directory of IRS Sources, entries for sources of environmental information in Jamaica. Eventually the Library proposes to produce a National Directory of environmental information resources in Jamaica and where this information is located.

Technical assistance is being obtained in regard to information systems development and help is also being sought for the development of capabilities for control of environmental information.

In the Ministry of Health investigations are currently taking place regarding the re-organisation of the Ministry's Libraries with emphasis on centralising operations for more effective administration and better services.

In the Legal Network, the Supreme Court Library is to become the headquarters of a centralised legal library service comprising Resident Magistrates' and other special Courts. Re-organisation and development of the Resident Magistrates' Courts have already begun.

It is in the closely-related networks proposed for Physical Planning and Social and Economic development, those of greatest concern to this meeting, that rationalisation is most needed.

The proposal to establish two networks, hopefully, will accelerate development, and the decision to build on existing strengths and useful experience is of particular relevance. In each area there are services where data collection and processing, and exploitation of the collections to meet the needs of specified clientele exist and it is with the assistance of the qualified and experienced personnel who man these services that rationalisation is to be effected.

In each sub-system within the networks the aim is to regularize acquisition policies and methods, standardise bibliographic procedures, strengthen and co-ordinate SDI practices and establish union catalogues of the holdings of the constituent parts. Eventually the focal point of each network will maintain the union catalogue of the entire network.

The Physical Planning Network is especially important to provide the continuous and up-to-date flow of data essential to the ongoing process of reviewing and analysing facts for revised plans and policies. The data required for planning purposes can be divided into two main categories: statistical and locational. The former is collected and disseminated in the form of reports, quarterly and annual publications and occasional special reports by the Department of Statistics. The latter is taken care of by several departments, the Town Planning and Survey Departments, the Ministry of Local Government and its many branches and the Urban Development Corporation. Land Valuation, Industrial Development, Housing, Works and Communications have all contributed to the increase and complexity of information required.

A comprehensive data collection and processing system for planning purposes is highly desirable. It is envisaged that the Town Planning Department should initiate this task, and with the help of an expert in the field, carry out the activities that will result in a data base for planning purposes.

In the Social and Economic Network, the designated focal point is the National Planning Agency (NPA), whose role is the co-ordination of all projects for planning and development and all technical assistance programmes. NPA already maintains close links with the Institute of Social and Economic Research at the University of the West Indies.

Within this network, current developments for the Ministry of Education include use of the Educational Resources Information Centre (ERIC), i.e. acquisition of ERIC documents in microfiche form and the establishment of a similar system for Jamaica. To this end,

an Education Information Analysis Centre (EDIAC) for storage and retrieval of documents specific to Jamaica's educational needs, particularly information generated by research work in the Ministry is to be part of the Education Development and Demonstration Centre (EDDC) at Caenwood.

The Agency for Public Information (API) has been named the co-ordinating centre for the media with particular emphasis on films and the Cultural Training Centre for sound recordings and manuscripts in music, speech and drama.

Recently established financial institutions have been provided with facilities for library and information services, and early co-ordination and integration of these nucleus services will have to be undertaken by the qualified personnel available and under the aegis of the Ministry of Finance and Planning.

Detailed plans for the establishment and operation of these sub-systems, and the designation of some focal points are yet to be made.

National Referral System

The overall supervision of this co-ordination and upgrading of services in government and special libraries is to be the responsibility of the National Library of Jamaica, a special section of which is designated for this purpose.

In addition, the National Library is to establish and maintain links with the focal points of all networks - the National Referral Service designed to provide rapidly on request the location of needed information.

The Directory of Library Resources in Jamaica currently in preparation is also expected to provide a valuable resource tool for the location of information.

THE NATIONAL INFORMATION SYSTEM

To summarize, the National Information System is to be based on and result from the careful co-ordination of all types of libraries, archives and documentation services. Its aim is to ensure that information is available as needed to all sectors of the society with maximum effectiveness and economy. The means by which this is to be achieved is the grouping of the services by subject or function for voluntary co-operation in acquisitions, bibliographic control and availability of services. The goal is the ultimate linkage in one system available to the public as a whole.

THE ROLE OF THE NATIONAL COUNCIL

Much depends on the initiative and drive of the National Council as well as on the availability of adequate personnel and physical facilities (buildings, equipment, etc.) for the implementation of the proposed developments. The realisation of an integrated national information system is a long-term project for which basic financial support must be provided by Government. Bearing in mind the present economic crisis, the implementation of those aspects of the plan which have financial implications will have to be carefully phased on a priority basis.

A great deal of further planning is yet to be done and the Council proposes to set up a number of task forces involving information specialists, government administrators, appropriate subject expertise and users of information to assist in mapping out effective courses of action.

The re-organisation and development of government libraries and information services is a priority and one which requires a policy statement by Government regarding:

- (a) the role and functions of such libraries within an organisation;
- (b) specific budgetary provision; and
- (c) staffing.

The most important constraint in the development of these services is the lack of professional and technical personnel. The plan provides sound recommendations for recruitment, for education and training of professional and technical support staff, as well as for the preparation of a comprehensive classification scheme and pay plan to be recommended to Government.

Government is now taking measures to bring into operation the recently passed Copyright Act 1977. The Council, with the assistance of one of its sub-committees proposes to submit recommendations for regulations regarding the application of the Law to library operations.

Another area of legislation in which the Council is to take action is the replacement of the Books (Preservation and Registration of Copies) Act 1879, with modern legislation providing for the legal deposit of all materials, both print and non-print, issued in Jamaica.

Preliminary work initiated by the Jamaica Library Association has been done on the compilation of a union list of serials. Unfortunately, much of this work is out-dated due to unavoidable delays caused chiefly by lack of funds. It is hoped that with the assistance of the focal points of the proposed networks, the National Council, on completion of the Directory of Library Resources, will be able to work on this important bibliographic tool.

REGIONAL CO-OPERATION

The plan cites the long-standing tradition of library co-operation within the Caribbean region, which has been particularly close and fruitful within recent years. It further recommends that regional networks embracing existing documentation centres devoted to agriculture, science and technology, social science and other fields be developed in conformity and linked to international networks such as DEVSIS, UNISIST, etc. from which the region can benefit.

CONCLUSION

It will be seen from the foregoing account that considerable basic planning for co-ordination and integration has been initiated, but much ground remains to be covered before an effective national information system can be achieved. Significant developments in many areas attest the need for constant monitoring by the National Council on Libraries, Archives and Documentation Services.

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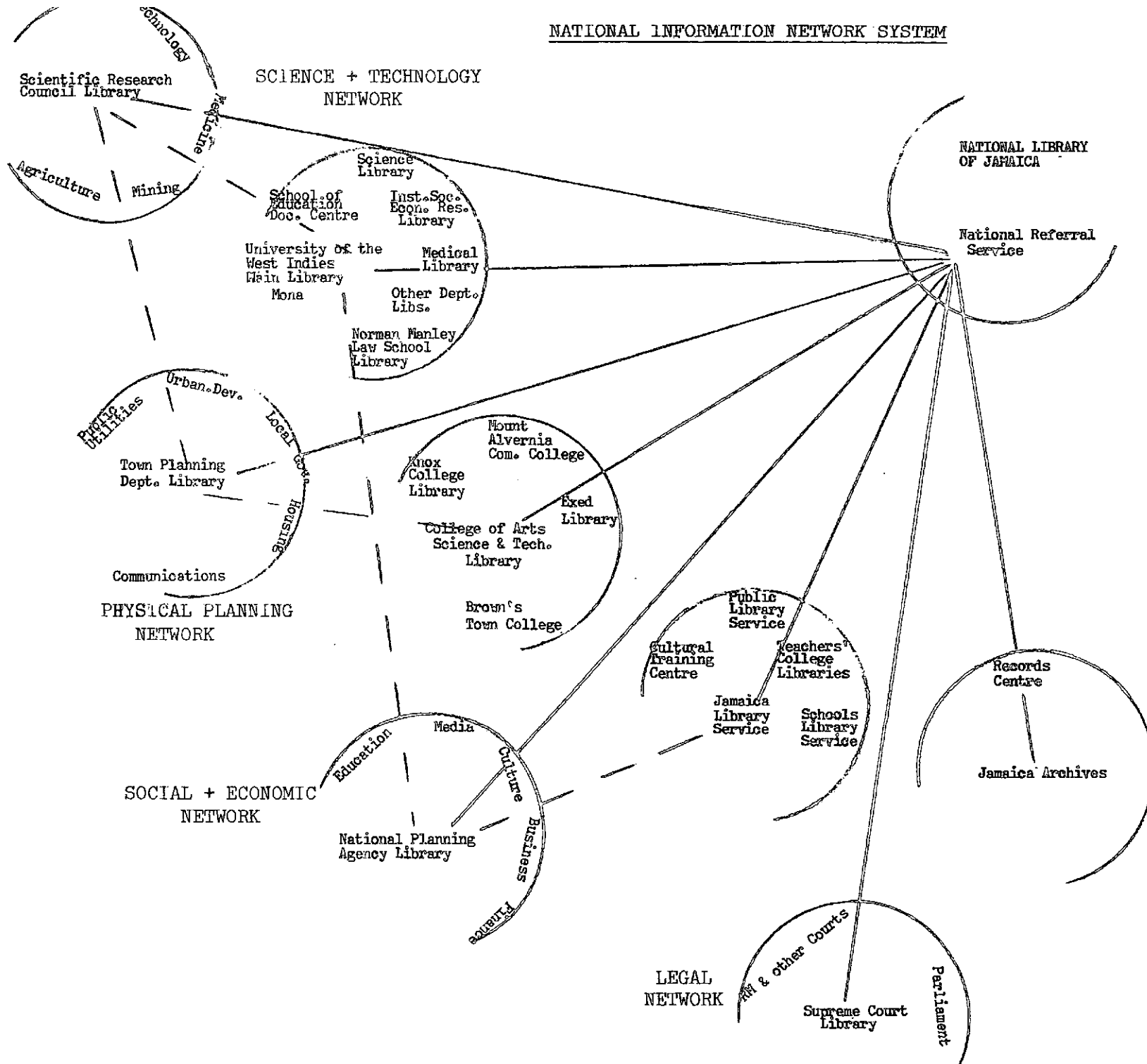
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NATIONAL INFORMATION NETWORK SYSTEM



THE ROLE OF THE UNIVERSITY LIBRARY IN MEETING
GOVERNMENT'S INFORMATION NEEDS FOR DEVELOPMENT

Prepared by
Yvonne Stephenson
Librarian
University of Guyana

THE ROLE OF THE UNIVERSITY LIBRARY IN MEETING
GOVERNMENT'S INFORMATION NEEDS FOR DEVELOPMENT

by Yvonne Stephenson

INTRODUCTION

A University Library is an integral part of the University which it serves. To understand its role therefore, one should first understand the role of the university itself. Through the ages the concept of the university has gone through several changes, we know of Newman's idea of the Oxford type of University - educating gentlemen and educating them one by one, and then there is Humboldt's idea of the Berlin type of University - educating those dedicated to adding by research to knowledge for its own sake. However, both of these concepts are now almost outdated. Their viability depended upon the existence of a demand for gentlemen or for leaders of church, state and empire, or for men of pure knowledge who could give their judgement from outside the battlefield with confidence and wisdom for others to apply. Today, the demand is for men of knowledge who could apply it themselves usefully and for those who could be sure of the application of their research.

Today, in developing countries two of the questions often asked are - Should a university concentrate on providing high level manpower to meet the lucrative job markets of the world? Do we in developing countries have the time and resources to develop just the well rounded scholar? In fact the pressure grows on universities in emerging countries to produce graduates useful to society, graduates who are geared to making a substantial contribution to the development of their society. There is the generally held view that our university must be responsive and responsible to the societies which support them. There are firm demands for relevance, involvement in national plans and problems, involvement in developing the society and in preserving the cultural and historical heritage of the nation.

It is interesting to note that in 1963 the Report of the University Grants Committee under the Chairmanship of Dr. Thomas Parry points to the fact that since universities were in receipt of large grants from Governments' Treasuries, then their accounts should be opened to public inspection, similarly, this Committee felt that the larger community in which these institutions existed should benefit directly or indirectly from their presence.

This paper is essentially concerned with the role of the university library in meeting information needs of Governments for development. But, in examining and later developing this theme, it had to be conceded that today, the university library is a dynamic institution, it is a focal point of activity which is forced to keep pace with the university, which in itself, is attuned to the forces of change. The library is therefore part of this cyclic reconstruction and is constantly trying to arrive at a definition of its role. Responding to needs, responding to requests, keeping pace with developments, are all factors which are propelling the university library to re-examine and re-define its role in today's society.

THE UNIVERSITY LIBRARY -
THE QUESTION OF FINANCES AND RESOURCES

The university library must then be seen in the general context of the university in its changing role. Over the past decades the university library in a developing country has been fulfilling this changing role which has removed it from the traditional Ivory Tower associated with the pre-twentieth century university to the institution of the mid-twentieth century which is not only the heart of the institution it serves, but also a vital organ of the community in which it exists. The views of the University's Grants Committee referred to earlier are considerably relevant to the situation in developing countries, where, in the face of scarce financial resources, many university libraries are relatively well financed, and are often the best stocked and equipped repositories of resources in their community, and are in the strongest positions to meet enquiries of the most specialised nature. The significance of this situation is that these university libraries should accept a responsibility to the nation and in doing so they must be prepared to meet the challenges of such a responsibility.

Although it is generally agreed that university libraries have a serious obligation to the societies in which they exist, and even though it is frequently assumed that they are exceptionally important sources of national wealth in terms of their stock, it is necessary

to consider the extent to which they meet their immediate demands and also the extent to which they are capable of meeting their national obligations. It is not known at this time whether there are any empirical studies which indicate the extent to which university libraries in developing countries meet the needs of teaching and research activities of their universities, but it is fairly well known that the budgets of some of these libraries are so inadequate that priorities have to be given to the purchasing of resources to meet the requirements of curricula and research programmes. A few of these university libraries are even in the extreme position of being unable to acquire anything else, but the priority resources identified for purchases.

However, with effective communication and involvement in some of the international aid programmes, a number of university libraries have been able to supplement their acquisition programmes somewhat effectively through the following schemes:

1. Exchange arrangements with other university libraries.
2. The acquisition of photocopies of articles from various libraries and perhaps a number of other schemes of this type.
3. Many substantial aid programmes which provide additional resources in the form of books and journals.
4. Very important is the fact that some university libraries are quickly developing the tradition of becoming the depositories of very valuable personal collections of scholars, politicians, or researchers, which are handed over, or bequeathed to these libraries. Many of the items in such collections are often rare and unique and they automatically add to the uniqueness and the value of these collections.
5. University libraries are usually the depositories for the documents and publications of such organisations as the United Nations and its specialised agencies, the European Common Market, OAS, etc.

It is useful to mention here that a very large proportion of UN documents is concerned with the very wide variety of problems which confront developing countries. Not least are the problems of selecting alternative channels for social and economic development when resources are limited. This sort of problem has been frequently tackled by the UN as evidenced by studies such as "Transfer of operative technology at enterprise level", "Appropriate technology and research for industrial development", "Rice milling in developing countries: case studies and some aspects of economic policies", etc.

In the case of the documents and publications of such agencies as the United Nations, it is strongly felt that since university libraries are quite often the sole depositories for such material, they should consider it their duty, quite apart from the conditions laid down for depository collections, to ensure maximum accessibility to this information, not only to governments, but also to other relevant sectors of the community. It is vital that those concerned with the development of the country should be thoroughly briefed with information contained in such relevant and significant studies. Activities of this kind support the view that these libraries, because of the value of their collections, or the unique material they acquire, should ensure that this information is put to the fullest possible use.

The case of university libraries with inadequate financial resources points to the reality of the situation in which some university libraries seem to be incapable of extending their services beyond their campuses. Hence it should not be accepted or taken for granted that all university libraries have the necessary capabilities for supporting the wider demands for information; at the same time the specific disadvantage of inadequate finances should not preclude these libraries from being important components of national information systems, since as has been demonstrated, some of them are engaged in stock building activities which make their contribution to the national system of information invaluable sources of a variety of information.

Accepting that university libraries are generally among the best stocked libraries in the emerging countries, one must also consider the equally important fact that the actual services offered by many of these institutions are such that would benefit governments in their quest for information. Here one would consider the example of a special service such as preservation activities by which valuable material which are rare or unique, or both, are carefully and scientifically preserved and are only available in these organisations. It is to be expected that information contained in this category of material should be available when needed. Universities would, of course, work out their own methods for coping with the mechanics of accessibility of such categories of material. But to be merely the repository of such information without carefully working out the ways and means of making it available for the development of society would be to negate the value of information.

THE ROLE OF THE UNIVERSITY LIBRARY AND ITS MANDATE

As mentioned earlier in this paper, the role of the university library, though not often a clearly definitive one, is often largely determined by the role of the university itself and it is often noted that the relationship between governments and these institutions are many and varied. Very commonly, members of the university community are involved in advising governments on technical development programmes, they are also often involved in advising on the formulation of policies in such areas as educational, socio-economic, scientific and technological development programmes. In activities such as these, there are not always a dichotomy between the specialised research areas of these academics, and their government related assignments. Arising from this level of involvement is an obvious indication of the influence such relationships would have on the university library in acquiring resources for meeting the dual information requirements of its staff. It is very unlikely that under these circumstances an agency outside of the university would be the one charged with the responsibility of meeting these information needs which would arise. More likely it would be

expected that the university library would need to collaborate with other agencies, both national and international, in order to provide adequate coverage of information for the purpose.

How then can a university library function in a supporting role to the policy and decision-makers? It has been stated on almost every occasion on which the university library is discussed that its primary role is to meet the teaching and research needs of the immediate community which it serves and more broadly to support the general development of the nation and the continuing education of its people. Within the content of this paper special attention is paid to the last roles just mentioned.

National Information Systems

The key to the effective role of the university library lies in its ability to integrate itself into the information network of its society. In keeping with the concept of national information systems in which one considers the total coverage of information as being provided by a network of libraries, documentation centres and archives in a country, it is immediately seen that university libraries are considered as components of such a system, and not as independent units unrelated to all other organisations but the universities. It is in the context of their contribution to this system that one should consider their role in meeting the information needs of governments. The question therefore is, how can the university library support the information needs of government and the society in which it operates?

Accepting the view that the university library is usually the institution which has assembled the strongest collection of published or unpublished material in any one discipline, it could be readily seen that its input into the total information network of the country would obviously enrich its quality. It has been pointed out that "If national and university libraries are the barometer of a country's erudition, public libraries are the barometer of its general culture. Erudition and culture are both valuable sources of national wealth", so, for these reasons the contributions of these information components are vital to the system. While the university's position may be one of

restricted access to the community, the availability of its resources which represents an exceptionally important source of national wealth could be made more widely available through the part it plays in a national information system.

Government departmental libraries

In the ideal situation, when one considers the flow of information to governments and their agencies one would immediately consider the existing government libraries and then predict the role of the university library as being only to supplement these existing resources, but in reality the part played by these libraries in many developing countries is a more complex one.

While some existing government departmental libraries may be relatively well stocked and organised, it is very likely that such libraries will be discipline oriented and therefore highly specialised. By contrast, university libraries with their cross disciplinary collections would be capable of meeting requests for more general background information which cannot be met from these specialist libraries. In such circumstances, the role of the university library could be seen as a clearly defined one in which it is simply required to supplement existing information.

In situations where government departmental libraries are either non-existent or are simply disorganised collections, the role of the university library is somewhat complicated and decidedly less easy to define. One would perhaps identify a double role in such instances, one of which would definitely be to ensure that administrators and decision-makers in these institutions are not denied access to information. The second role which is perhaps the more difficult of the two would be to persuade and if possible influence governments to organise and build library resources to meet their immediate needs. Here, university libraries will be assuming a novel role, but nonetheless a useful one. It would be difficult to determine just how university libraries would carry out this particular role, but, nevertheless, it should be emphasised that this is a very important role, and where it achieves any measure of success it would help considerably in promoting the idea of national information systems.

It is perhaps worthwhile to emphasise this role of supporting and encouraging the development of governmental libraries because it is known that governments in developing countries are responsible for the publication of well over fifty per cent of locally generated information in the form of reports, surveys, studies, etc., and they are also the bodies which commission the largest number of specialist reports which are done by consultants. It is also known that this specific type of material just mentioned is normally produced in limited quantities and tends to become elusive in a very short while. If there are organised libraries in most of these departments, it is likely that most of this valuable material may be safely preserved for use. More commonly because of the failure of many governments in developing countries to formulate policy regarding the declassification or release of documents, such material becomes untraceable or eventually lost in the absence of departmental libraries which seem to be the obvious repositories for housing this category of information, or monitoring its existence. The importance and the need for these departmental libraries in the total information system can be very clearly seen. If therefore university libraries could assume the responsibility for influencing their growth and development they would have made a further significant contribution to the national information system.

The staff of the University Library

Many university libraries in third world countries are relatively fortunate in both the quality of staff they are able to attract, and the size of their staff structures, and even though it is known that quite often these very libraries are short staffed, it must be admitted that regardless of this situation and the constant problem of inadequate finances, these libraries somehow succeed in being fairly well organised and maintain an acceptable standard of service.

Because of the standing of some university libraries in their communities and their involvement in various national programmes, many of them are subject to demands for assistance in the local training of personnel and in advising on the organisational programmes of libraries in government and several other sectors of society. University libraries

should seriously consider their role in these circumstances. It might be that in collaboration with organisations such as local library associations, these university libraries may contribute to training activities. But, given their likely advantage in terms of staff they should be prepared to participate significantly in such training programmes. If, then, university libraries seriously accept their community oriented role as one which involves partial responsibility for on-the-job training at the local level, then this should be reflected in library projections such as estimates and staffing plans so as to ensure that they could meet such commitments on a regular basis and without undue strain to their normal routine operations. There is little doubt that governments through organised departmental libraries could benefit from this type of assistance.

There are other specific areas in which governmental activities could be considerably enhanced through the direct assistance of university libraries, which, if excluded from such activities may have long-term effects of a very serious nature. The specific government activities considered here are cultural and educational programmes aimed at giving expression to the cultural heritage of a nation. Many university libraries in third world countries, through their acquisition policies for local material, undertake the collection of materials which are rare, unique, or scholarly, and very often it is this category of material which provides the fundamental sources of information needed for the production of important learning and teaching resources in the form of indigenous textbooks and books used in mass education programmes. If this vital information is not made available to such programmes the results would be to the detriment of the educational and cultural development of a nation.

If it is accepted in essence that one role of the university library is to support and encourage the development of libraries in government services and society generally, and to ensure that relevant information is fed to the policy and decision-makers on a regular basis or on demand, then one should look more closely at some of the actual ways in which this service could be implemented.

Making Information Available

The argument arising at this stage may surround the issue of the mandate or the authority of university libraries to adopt the roles so far advocated in this paper. Certainly the answer lies in the philosophy adopted by the university itself which has been referred to earlier in this paper, and the initiative and awareness of librarians or directors of libraries. Within this already established philosophical framework of these institutions, it is the Librarian who must advise on policy, determine roles, and establish procedures for the services which will ultimately be provided. To be precise, it is the librarian's concept of commitment to society which would determine the goals of the library's service in its widest context. The procedural matter of the establishment of the actual links with government and community, although secondary in importance, should be considered.

It is envisaged that university libraries could carry out their role in providing information to governments through, first of all, formulating policies and procedures which would permit them to do so. These libraries would at times need to be creative and often inventive in the procedures they would adopt in executing these policies. Perhaps the commonest procedures to be adopted are as follows:

1. Literature searches and the compilation of subject bibliographies on request

This is very important because too often in many countries in the third world projects are initiated and a certain amount of progress made before it is discovered, sometimes by accident, that the projects were already embarked upon, if not within the country, then within the region. This results in undesirable duplication and wasted time and money.

2. Current awareness information transfer services

It would be of immense help to governments, administrators, or decision-makers if they were to be alerted or notified of newly available information in and around areas of activities in which they are involved. In the face of the ever increasing volumes of information being published and the amount required by university libraries, and often the near

impossible task of keeping abreast of specific areas of information, the whole idea of a current awareness system to government might seem to be an herculean undertaking. But, if libraries seriously accept the importance of information and the consequences of government decisions made without maximum information being available at the material time, then it would be obvious that this activity would be given the serious attention which it deserves. Librarians, documentalists, information workers, are all trained to handle and organise this rising tide of information.

3. Reference Services

Within the machinery of government problems arise which may require either an immediate solution or a long-term one if action is to be taken. In these undertakings when information is solicited from university libraries, the response should be treated as a vital service. Requests for information which necessitate the use of standard works of reference or source material which does not leave the institution, would need to be dealt with expeditiously, but adhering to the procedures which may have been established for this given service.

These suggested areas of service should not be seen as replacing the existing departmental libraries, but merely as practical steps to supplement those services where they exist, and to extend the actual scope of other services. The role of the university library here is simply to ensure that the information required by the policy-makers, even though located in the university library component of the information system, is available to government at the time required.

UNIVERSITY OF GUYANA LIBRARY -
ITS PHILOSOPHICAL BASE

At this point, one may look at the University of Guyana in the context of this paper. The University of Guyana was established in 1963, it serves a country of 83,000 square miles with a relatively small population of 850,000 people of which the university population is approximately 3,000 - staff and students. This University, from its inception, has held the view that its programmes should be relevant to the development needs of the society it serves rather than the pursuit of academic studies as an end in itself. As a result of its philosophy the activities of this Institution show a heavy emphasis on programmes aimed at focusing on national consciousness or identity, self reliance, and areas of development as perceived to be of national import.

Very broadly stated here is the philosophy of the University of Guyana. However, it might be well to add that this Institution, like any other university, must be seen as an Institution which protects the integrity of disciplines, while at the same time maintaining its community related obligations - obligations which should be considered as being justified when one considers the immense amount of finances invested in the organisation. The ultimate achievement of this University is not the number of graduates it turns out, but the way in which such graduates would be equipped to make a practical impact on the society, or, by the way in which particular disciplines or research activities will harmonise with national development programmes.

The Library in operation

The Library in this Institution, like many of its counterparts, has developed an acquisition programme aimed at meeting the needs of the immediate community which is its primary responsibility. But in keeping with the community oriented philosophy of the University, the Library's acquisition policy takes into account the various development programmes and policies of the Government and serious efforts are made to ensure the acquisition of relevant material in order to build a collection of resources which is well geared to handle the needs of

academic staff who are involved in the Government development programmes, while at the same time ensuring that the University Library is equipped to promote a suitably informed university community. Such an acquisition policy also ensures the ability of the Library to meet the requests for information related to Government programmes which may filter through. It is the view of the Library that its stock should include material which reflect the thoughts and aspirations of the Government as far as possible.

In other aspects of its organisation, the University of Guyana Library has been somewhat creative in its attempts to develop as an institution which is fully attuned to and integrated in some of the broader aspects of the development of the Guyanese society. High priority has been given to the development of a Caribbean Collection that includes a collection of Guyanese material, which is sufficiently substantial to several areas of research on Guyana. In this particular aspect of its activities the Library operates in close co-operation with the research arms of various Government enterprises, as for example, the Upper Mazaruni Development Project which is engaged in the massive development programme for supplying hydropower to Guyana, and the resettlement of some sections of the Guyanese population. This project is also concerned with ecological and environmental research into certain areas of the country, and into the life style of some of the indigenous inhabitants of Guyana. The Government Personnel involved in this project are not only accorded certain privileges in the Library, but they are also actively involved in helping to identify and locate published or unpublished research material of all kinds. This activity ensures maximum coverage of information both for the Library and project management.

Another example of this type which could be usefully cited is the Library's involvement in such activities as ensuring that resources available in its collection are made available for the production of local texts for teaching purposes. Much of this material is also utilised by personnel involved in research areas such as historical and cultural projects of various kinds. Involvement of this nature

results in a close-knit relationship between the Library and sections of Government. These activities which are given very serious attention clearly demonstrates the University Library's policy regarding the availability of its resources to support the country's development programmes.

In our effort to achieve maximum utilisation of the information contained in our Caribbean Research Collection in Government sponsored research projects, the Library has accepted the responsibility for producing specialist subject bibliographies when requested by the Government. The Library has also undertaken the function of editing subject bibliographies produced by national agencies as part of its ongoing relationship with Government. This way the Library assists not only in providing information, but in supplying professional guidance in bibliographic activities.

As an Organisation, the University of Guyana Library has been innovative in the major role it is playing as an Institution involved in preserving some of the scientific, historical and cultural records of the nation. So far, staff training, physical accommodation and equipment have been catered for in order to launch this programme of the preservation of rare materials. Special photocopy machines have also been acquired in the effort to utilise photo-duplication as a preservation technique. Photo-duplication where feasible has also been used as a means of making some rare items available for Government researchers, thereby ensuring that originals are protected.

In addition to the bibliographic activities already mentioned, the University of Guyana Library is receptive to a limited extent to requests for the use of its Library Facilities to a certain number of personnel in various areas of the Government service. As a result of this limited loan facility, government benefits through the ability of its officers to obtain access to a wide range of up-to-date information. This must be seen as an important step, because governments in developing countries like Guyana, are in urgent need to be supplied with exact and up-to-date information, which should not be denied to these officers because of the absence, or impoverished state

of Government Libraries. The particularly important issue is that Government should not apply outdated methods neither should they use outdated data in planning, and other activities. Hence the importance of access to the Library by such personnel.

At the University of Guyana Library we see our role sometimes as a Library within a larger information context where it is necessary to support or complement other units of information, at times it is even necessary to collaborate with some units in order to avoid costly and unnecessary duplication of effort and resources.

It is worth pointing out that the University of Guyana Library in its preparedness to work with Government, and through its involvement in bibliographic activities related to national research projects, in turn, helps to satisfy the needs of the University's academics through creating a relationship whereby the research findings of these agencies are more easily available to its own academics. It should also be reiterated that the relationship between the academics in this University and national agencies and institutions is already a very close one. As in most developing countries and even in some of the developed ones, these university academics are involved as consultants, advisers and researchers for these bodies. This fact alone makes us realise that in assisting the work of the latter, the library is, in fact defining its role in relation to government.

CONCLUSION

The resources of university libraries in developing countries should not belong to their parent institutions exclusively, on the contrary these resources should be considered a public utility. This traditional view that the information assembled in these libraries belong exclusively to one section of society should not be allowed to hamper the development of a policy of commitment to the nation which is perhaps the surest way of ensuring that the wealth of information in these libraries is put to maximum use. Unless university libraries are prepared to be responsible to change and to accept the responsibilities inherent in being part of an emerging nation they will be failing to keep pace with development.

The contribution of these libraries to the provision of a total national information system must be emphasised since it will be an effective step towards the reality of meeting the information needs of governments in developing countries.

This paper has attempted to show that despite the established traditional and the various problems and financial constraints under which many university libraries operate, there are yet ways and means by which they could adopt a more positive effort in meeting the information needs of governments for development.

DOCUMENTATION FOR ECONOMIC AND CULTURAL
DEVELOPMENT IN BELIZE

Prepared by
The Government of Belize

DOCUMENTATION FOR ECONOMIC AND CULTURAL DEVELOPMENT
IN BELIZE

by The Government of Belize

The official programme has a dual focus, which for the purposes of this exercise, are best separated as follows:

1. Data building, interpretation and monitoring as a tool of economic development;
2. Cultural retrieval for animation, presentation and revaluation.

In regard to the above, Government has fostered field work in the recording of cultural survivals, rooted in Belizean history, tradition ethnic and cross cultural experience.

A lot of this has had to do with the collection of folk songs, folktales, the documentation of herbal remedies, belief systems, including ritual, song and dance.

Language has been of special interest in view of the existence of ethnic languages which follow a definite geographic distribution and also in view of the requirements of the communication process in the conduct of extension programmes in agriculture, health, rural development and local government.

In the Education System, as well, awareness is gaining currency that the teaching of English and Spanish in the formal education process can be greatly facilitated by building outwards from a language which is known and which, in many instances had dominant social usage, to the standard required for higher education, for trade and diplomatic intercourse.

We are convinced that, in a historical context, the process of cultural revaluation must begin with a clear realization that the devaluation of local cultural norms, values and manifestations followed as a deliberate and inescapable consequence of the colonial experience which, in every moment of time, required the absolute

supremacy of the cultural modes of the imperial power and the concomitant dissolution of tendencies which would have encouraged the emergence of a sense of community, a sense of local value and nationhood. The re-creation of the Belizean man, in these circumstances, dictates a resolute and uncompromising need, not only to challenge, but more importantly, to de-sanctify many of the assumptions which linger in the society, resulting from the colonial experience. The focus of research in this area therefore must concentrate on showing:

- (a) Authenticity
- (b) Relevance
- (c) Justification
- (d) Excellence

The programme adopted has been characterized by the following strategic steps:

Firstly, to rescue from possible permanent loss those cultural survivals which are particularly in danger of extinction, e.g. the oral tradition and physical material like archives, monuments, ethological specimens (memorabilia);

Secondly, having identified and retrieved this material, the exercise requires its storage and documentation in permanent form in such a manner as will facilitate access by researchers, students and artists for serious study and/or use, as source material.

The passage of time and the changed conditions under which Belizeans presently exist requires that even for a local audience, there must be a sensitive animation and authoritative presentation of the material in order to realize the objective of revaluation. This has been attempted through carefully organised public presentations, involving direct government participation and the involvement of the various skills and artistic capabilities present in the society.

The National Library Service and the National Archives present a more regular type of organization for the preservation and (albeit more limited) presentation of material of contemporary or recent vintage. The thrust here

has been, largely by appeals, to secure the submission of printed and visual matter which is then carefully catalogued for study by both nationals and foreigners, under conditions offering limited treatment and handling facilities.

In recent months Government has directed its attention towards the following measures:

- (a) The legislative base covering the operation of the Library Service and the Archives has been under review, largely with the objective of guaranteeing better access to significant material, enhancing confidentiality where necessary, putting a damper on certain exportations, and more clearly defining material which is the subject of official interest.
- (b) A programme has been elaborated for training to a higher level a wider range of support staff and also for acquiring improved technical competence to treat, copy and preserve material of cultural and historic interest.
- (c) A more deliberate forward stance has been adopted in publicising the importance of the National Library Service and the National Archives and in particular, their special role as custodians of the corporate memory of our people.
- (d) There has been a move to extend the physical plant.
- (e) Institutionally, i.e. within the public service, there has been an effort to standardize both the training and operational guidelines of public officers having to do with the custody, culling and selection of public records for the national archives. For its part, the archives has assumed a more dynamic role as a service department reaching into other departments. It also advises on the preservation of privately held records and archival material.

The Curriculum Development Unit, Government Information Service and Government Printery offer limited resources for book production, copying, illustration and mass distribution of printed texts. Stimulation of public demand and lowering of resistance will be indispensable to development of a local literature. Regional co-operation will therefore be essential to the achievement of rapid progress in this field.

Sensitizing the public to the need for this type of effort, and its importance to national and regional integration is primarily a task for the official media, in co-operation with the private media. At every moment of time it must be realized that there will be competition by alien media for the eye and ear of the local audience. Their purpose, by a process of osmosis, is to secure the allegiance - if not the obedience - of the national and the regional audience for purposes which seldom, if ever, coincide with national or regional imperatives. In this, they are assisted by a dependency syndrome embedded by the experience of colonialism and the sense of splendid isolation, the parochialism which formerly characterized the attitude of states and territories within the Caribbean basin.

Here again, interchange of materials, experience and specific expertise will go a long way towards breaking the norms of the past and opening exciting possibilities for re-defining the region and its essential interests.

The concept of economic and social development must be defined within a broad perspective through a period of time. Development is a dynamic and on-going process which in effect never ends because each phase constitutes the foundation for the next phase. Planning is the most important instrument to incorporate into the economic process the criteria of efficiency and equity. It is a responsibility of the State which must guide social change in order to meet existing needs and broaden the opportunities for future action.

But planning is not only an act of rationalisation; neither is it merely an act of justice on the part of the State. It is an imperative that emanates from the ideals inscribed in the fundamental laws of our country, a way of affirming and bringing to fruition the rights and aspirations of the national community.

However, the need for planning now begins to be seen also as an international imperative. The problems of economic and social inequalities have now reached the point where they are more and more being decried on international forums. Calls are constantly being made for a new international economic order based on the principles of social justice and equity that will provide a more fair distribution of the international wealth. The charge, not unjustified, is levied at the industrialised, developed countries of espousing the doctrine of economic imperialism. The tragic result has been a widening gap between the rich and poor countries and the gradual erosion in some cases of national sovereignty. This has inevitably led to polarisation and to a virtual state of confrontation between both camps.

The poor so-called under-developed countries of the Third World, and in particular the Caribbean States, fully realise their vulnerability as small and open economies. It is imperative, therefore, that we remain united if we are to exert any amount of leverage in the struggle for a just social and economic order that will ensure meaningful development and the economic and even political survival of our sovereign nation-states.

The formation of regional groupings therefore constitutes a positive and laudable step in this direction. The removal of trade barriers and the creation of a regional market and the many other benefits that flow from regional co-operation in the various areas and institutions can only serve to strengthen the bonds which unite Belize and the other member countries of the Caribbean Region. Further, it is felt by some that survival can only be assured through a greater degree of self-help and regional self-reliance.

It is within this context that the Central Planning Unit of Belize has to operate. The Central Planning Unit is the organization which has special responsibility for the elaboration of development programmes with the assistance of Government Ministries and Departments.

Other duties of the Unit include:

- (a) to take any census in this country;
- (b) to collect, compile, analyse, abstract and publish statistical information relating to the social, agricultural, mining, commercial, industrial and general activities and conditions of the inhabitants of the country;
- (c) to collaborate with departments of Government and with local authorities in the collection, compilation, analysis and publication of statistical records of administrations and departments; and
- (d) generally to organize a co-ordinated scheme of social and economic statistics relating to this country.

The Central Planning Unit has therefore taken the lead in designing the type of information-gathering exercise which will yield on a current and historical basis the statistics and other general information necessary for the elaboration of economic and social policies, for the preparation and implementation of development programmes and for the subsequent monitoring and evaluation of performance. The Unit further has an interest in organizing this data bank on a basis of easy comparability not only within the Belizean context itself, but also within the wider ambit of the Caribbean Region and especially in regard to the economic links now being forged with our principal partners in trade, development and technical co-operation programmes.

The need for accurate, consistent, continuous, comparable and timely statistical information is probably one of the most pressing requirements in our efforts at socially engineering our economies and societies. To plan, forecast, detect or evaluate change and development in our societies and economies calls for reliable statistical information. To advance on a regional front calls equally for comparable statistics, an objective which can only be achieved by co-ordinated action of the type now being contemplated.

EXISTING FACILITIES FOR MEETING THE
INFORMATION NEEDS OF PLANNERS AND POLICY-MAKERS
- CARICOM MEMBER COUNTRIES

Prepared by
Carol Collins
Librarian
Caribbean Community Secretariat

EXISTING FACILITIES FOR MEETING THE
INFORMATION NEEDS OF PLANNERS AND POLICY-MAKERS
- CARICOM MEMBER COUNTRIES

By Carol Collins

INTRODUCTION

Because of the state of library and information services in the region under discussion, the term "existing facilities" has been used in a very wide sense, to include all the present sources of available information which inform government policy, whether these sources are organized for maximum use or not. One also needs to qualify the term available in terms of confidential material. The question is, available to whom?

It was an impossible task given the lack of time and the financial constraints to conduct surveys in the CARICOM member states, stretching from Belize in the North-West to Guyana in the South-East, to determine:

- (a) What the information needs of planners and policy-makers are;
- (b) What information facilities exist in terms of relevance, quality, and up-to-dateness of material;
- (c) How effective the system of communicating needs, and of meeting these needs are, in the various territories.

These three factors I consider to be prerequisites in analysing the existing facilities for meeting the needs of the group specified, and here I would include the technicians who so often inform policy decisions. It has not been possible to do this.

Furthermore it seems to be an unnecessary duplication of effort to detail an inventory of relevant material held by different information organizations, especially in the light of existing CLADES survey covering economic and social information; the UNESCO:UNISIST inventory of on-going research information services and systems; and UNEP survey of existing documentation capacity for the International Referral System for sources of environmental information. Much information can also be gleaned from the various reports done for ACURIL and SALALM over the years, and the more recent DOERS workshop held in Jamaica in May this year.

This paper then seeks to remind the meeting of the conclusions drawn concerning the state of library development in the region - to examine developments in the region, in attempting to meet information needs, and with what success; to suggest some of the needs of policy-makers and planners and to determine the reasons why some of these needs are not being met. Many conclusions arrived at are based on a sample survey and interviews in Guyana, the Headquarters of the CARICOM Secretariat.

STATE OF LIBRARY SERVICES

Some of the main generalised conclusions drawn from various reports on the state of library services in the region are:

- a) that there is an uneven development of services nationally and regionally, from well established library services in Jamaica, through to the services in Trinidad and Tobago, Barbados and Guyana, to varying degrees of poorly organized systems in the other CARICOM member territories.
- b) that there is a direct relationship between government awareness of the importance and constant support of proper staffing, financial arrangements and physical facilities, and the services provided, so that where constant financial support has not been given, either by outside aid or government arrangement, services have stagnated and even declined; whereas the constant financial support has given rise to the establishment of some well developed and dynamic services.
- c) that the need for specialized services over and above the wider based services of the Public Libraries and the University Library Systems, led both these systems to undertake to provide needed services through special collections of general and historical Caribbean material, Government documents, technical reports, and periodical literature.

- d) that despite these attempts at meeting the requirements of specialized groups, outside of the general public and the academic oriented population, the needs of groups like policy-makers, planners, technical personnel, managers, administrators, etc. were not being adequately met.
- e) that due to the sparsity of bibliographical control tools in the region, acquisition of material has been extremely difficult, and unnecessary duplication inevitable.
- f) that to date no organized efforts have been made to release the wealth of confidential documents in existence for available use, despite a Heads of Government decision to exchange Government publications.

The conclusions indicated serve to show why one cannot expect to find formalized systems existing to meet the specific needs of those who determine policy.

SOURCES OF INFORMATION USED BY THOSE WHO INFORM POLICY IN GUYANA

Technicians, planners, and policy-makers have tended to rely heavily, in order of priority, on:

- a) Their own collections, and also to build up these collections by acquiring technical reports, reports referred to them for use or action, feasibility studies, conference papers, and documents sent gratis by international organizations.
- b) Colleagues, who might have some specialized knowledge in the field of interest.
- c) Information requested from outside through contacts made at conferences.
- d) The Organization's library where it exists.
- e) Other local libraries.

A sample of a survey now being conducted in Guyana by the Guyana Library Association has shown that the pattern of obtaining information detailed above, is used, excepting in cases where the organization has a well developed service oriented library. In that case the library is first consulted, e.g. the Public Service Ministry Library is building up a core collection of management and training material, and this library is consulted first for information in this field, as is the CARICOM Library for its collection of regional integration material.

Visits to libraries in Guyana showed that where the libraries were staffed by clerical workers only, the libraries became a storehouse of little used material, much of which was rejected from personal collections. To compensate for this, officers built up their own collections housed in individual offices, of both confidential and non-confidential material, unlisted, and therefore almost unavailable.

There is also a good example of the type of alternatives that emerge. In one important Ministry, where a library exists, a separate collection of vital material, ranging from statistical reports to technical reports, constantly being added to, exists in an unused office. The collection is jealously guarded, but not organized for easy retrieval, or attended to. This collection is vital to the development process. Use is attained through direct application to the Senior Officer. Fortunately the Officer is well aware of the importance of the information, and permission is usually given for use to bona fide government researchers. The collection is unlisted, and not very well publicised in the other Ministries. It has been stated that this collection will form the core around which a library will be established for the State Planning Commission,^{1/} when it comes into being.

^{1/} Draft legislation recently tabled in Parliament states that the State Planning Commission will have responsibility for the Central Planning of the economy within the socialist philosophy and objectives of the government. The seven functions of the Commission will include advising government on planning the orderly, balanced economic and social development of Guyana; preparation of development plans, monitoring the development of plans, conducting research and advising state agencies. The Commission will be given, under the draft law, wide powers to obtain relevant information, but such information is guaranteed secrecy in the Bill which makes it an offence for information which will influence market value, to be passed on. The Bill is to be debated. I have been assured that this Bill is not unusual in dealing with confidential documents.

Other examples of vital collections that exist, but are not available for easy reference are, the well organized collection of material relevant to Guyana, properly housed and labelled in filing cabinets in the Registry of the UNDP Office, even though a properly run library exists in that organization, to which users are referred.

On the other hand there is also the collection of the United States Aid Department, which is available for use by policy-makers and planners for reference; available through Index to USAID/Guyana Memory Bank and Documents collection.

There are yet other collections, chiefly of technical and feasibility reports that have been carried out over the years, which are housed in private homes, and remain confidential.

Nevertheless, I submit that these separate collections do form part of the existing facilities for meeting information needs that can be and are tapped. These arrangements are inadequate.

EFFORTS AT MEETING NEEDS IN THE REGION

There has been throughout the CARICOM region, the recognition that special libraries are the best answer to meeting the needs of policy-makers, etc. One notes therefore the establishment of special libraries in Government Departments, Banking Institutions, Intergovernmental Organizations, Research Oriented Organizations and Commercial Institutions.

Unfortunately, the failure to recognize that services demanded can only be delivered with the provision of professionally trained staff, proper budgetary arrangements and adequate physical facilities, led to the establishment of libraries doomed to failure from the outset.

In cases where the prerequisites for good service were accepted and implemented, some very good special libraries and documentation centres have emerged. One only needs to look at some of these established in Jamaica, Barbados, Trinidad and Tobago, and Guyana to appreciate the fact. These libraries are staffed, with professional and support staff, with special financial arrangements, and in general are user oriented, and do supply material in response to the needs when communicated, of policy-makers, planners, technicians.

Without meaning to indicate that there are libraries which are useless in offering services, I have indicated libraries which are most relied on for information. (Jamaica has been excluded, since it is to be a special case study).

The examples of these special libraries, have been chosen according to the use made of them, as stated by the Librarians and some technicians and policy-makers in the region: They are -

TRINIDAD AND TOBAGO

Industrial Development Corporation Library
Caribbean Industrial Research Institute (CARIRI) Technical Information Service
Ministry of Planning and Development Library
Ministry of Petroleum and Mines Library
University of the West Indies Library, St. Augustine - Agricultural collection
Central Bank of Trinidad and Tobago
ECLA Documentation Centre
Medical Library

BARBADOS

Institute of Social and Economic Research, UWI - Library
Central Bank of Barbados
Caribbean Development Bank
British Development Division in the Caribbean
CADEC
Queen Elizabeth Hospital Medical Library
University of the West Indies - Law Library
Public Library

GUYANA

National Science Research Council of Guyana - Documentation Centre
CARICOM Secretariat Library
Ministry of Economic Development - Development Secretariat
(Not a library as such, but has a vital collection for the development programme of the country)
Statistical Bureau Library √No professional librarian√

Central Public Service Library
Bank of Guyana Library [Experienced library assistant]
Medical Science Library
Attorney-General's Office Library.

The following statements, not verbatim, have been contributed by discussion with the Chief Librarians in the territories, and are also based on a CARICOM Secretariat survey in 1975.

ST. LUCIA

No organized special libraries exist to meet the needs of policy-makers and planners. Small collections of books are held by Officers in some ministries.

To the extent that libraries are used at all, the following libraries receive requests:

The Public Library
The Information Section of WINBAN
The Library of the UNDP Office

In very limited way:

The Library of the Morne Education Complex, chiefly for education and technological material

The law library and House of Assembly Library, in so far as they are able, deal with legal and parliamentary affairs. No trained librarians are attached to these libraries.

ST. KITTS/NEVIS/ANGUILLA

The library services, excepting for the attempts in the school, remain virtually non-existent. For the first time a trained librarian, a V.S.O., is attached to the Public Library system to attempt to make something out of the existing chaos; and to design a National Library Service System. A central library is being constructed, and should be completed in 1978, through a British Council grant. No organized special libraries exist to meet needs.

DOMINICA

There is a small staff collection in the Establishment Division of the Premier's Office, dealing with administration.

The Public Library, which has the only trained librarian in the country, attempts to meet the statistical requirements, but is very seldom able to do so.

The recent decision to have all Government Departments resume publishing annual administrative reports, which ceased since 1970, is in an attempt to satisfy some statistical needs. As of December 1977, all departments should be publishing their annual reports.

ST. VINCENT

There are small collections of relevant documents and technical reports in various Ministries, but these are not organized, e.g. collection in the Agricultural Department, fairly extensive collection of legal material in the Attorney General's Office, and in the Magistrate's Court. The University Centre also has a collection of material to which additions are made. It is difficult to estimate the use that can be, or that is made of this collection by those who inform policy.

The Public Library is frequently called on for assistance but providing the specialized material, is not on the priority list of a System already overburdened with providing material for the schools and the public.

ANTIGUA

No report was available from the Librarian, who was on leave. No information has come to light to change the situation as existed in 1975.

There were no organized special libraries and no Public Library System to meet the needs of policy-makers and planners. The ECCM Secretariat is currently being relied on to provide information, especially regarding statistics.

BELIZE

No information available. In 1975, some Government Departments had collections of material that were inadequate to meet needs.

Reliance was being made on the National Library Service, whose services to the technicians and those concerned with policy-makers could hardly be considered adequate.

GRENADA

The Government of Grenada has only recently decided to up-grade its library services. As part of the plan to improve the Government Library Services, a professional Librarian has been appointed to organize government libraries. \$11,450 has been voted for the project which has not yet really got off the ground.

The small collections which exist for the use of technicians etc. are in the Ministry of Education, Ministry of Finance, Parliament Library, Attorney General's Chambers, and Law Courts.

In many of the libraries established, in the Central Banks in the region; CARICOM Secretariat, Caribbean Development Bank, ECCM Secretariat, CARIRI, Industrial Development Corporations, in Commercial Firms, State Owned Corporations, and Statistical Departments, there is much confidential material, closely guarded, and made available almost solely through personal contact.

MONTSERRAT

The Statistics Department Library is heavily relied on for statistical information, while the private collections, and small government departmental collections are depended on for more general information.

The Public Library, as far as possible, provides information when called on to do so.

CO-OPERATIVE EFFORTS AT MEETING NEEDED

Attempts by libraries to close the gap in deficiency in service, have been largely through co-operation, and in the case of Guyana an attempt at co-ordination.

Although the co-operative system has not been formalized, inter-library loans, use of libraries by personnel other than those attached to the institution, are well established and in fact now taken for granted.

The system of co-operation has been enhanced by the inter-change of accession lists. This needs to be widened to include all libraries. In Guyana for example, out of 30 special libraries, only 4 exchange accession lists.

There is no organized attempt in offering for exchange the subject bibliographies that are frequently compiled in answer to specific requests.

There is also need to compile and publish, complete holdings of periodical literature.

At present the constant use of the telephone does elicit information, but this method is ad hoc, time consuming, and does not always bring comprehensive results.

In Guyana a valiant attempt is being made to prevent the duplication of specialized collections, and to organize the Government Libraries to allow for the minimum amount of duplication. The Co-ordinator of Government Libraries, is the officer responsible for this operation. The system has not yet been refined, but certain trends are noted. The Public Service Ministry Library for instance concentrates on the collecting of all management literature, and training material. The National Research Science Council Library, science and technology. Ministry of National Development Library has an embryonic collection on political affairs. The other special libraries have collections in keeping with the interest of the institution to which they are attached. To date no national integrated system exists for the development of a total information system.

In Trinidad and Tobago the proposed National Library Service Plan, does have provision for the co-ordination of Government Departmental libraries.

Grenada has recently appointed a professionally trained Librarian to be in charge of the Government Libraries, whether or not a programme will actually get off the ground is not yet known.

BIBLIOGRAPHIC INFORMATION

There are in existence a few regional retrieval tools that do enhance service:

1. Four current national bibliographies - Barbados, Guyana, Jamaica and Trinidad and Tobago.
2. One current CARICOM regional bibliography - CARICOM Bibliography, published annually, the 1977 issue already distributed, and the 1978 now in preparation.
3. The Current Caribbean Regional Bibliography, though somewhat out of date when published is still very useful.
4. CARINDEX - a useful tool in tracking down periodical articles in the social sciences.
5. CARIRI - Information bulletin.
6. Management abstracts.
7. Subject bibliographies published irregularly.

Apart from this, several libraries throughout the region subscribe to indexing and abstracting services; current contents of periodicals in subject fields. In this area there is need for cooperation, since the services are quite expensive, and there is much duplication in acquisition. Furthermore, very often there are few items of relevance to the Caribbean and these do not always justify the subscription costs. A partial list of international services, held by libraries in Guyana is appended.

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It is important to note that unless more bibliographies concerned with regional activities, more indexes to periodical literature, list of confidentially held material is made available, there will be little hope of the sharing of resources that exist in the region.

NEEDS OF POLICY-MAKERS AND PLANNERS

From the Librarians' point of view, it is generally found that policy-makers and planners are either never quite sure of their needs, or fail to be able to communicate them to the people best qualified to procure the relevant information.

It is essential that this group understands that much time wasted can be avoided if requests can be precisely stated, and also

a measure of confidence shown in the people who provide information. For example, the request for all material on devaluation per se, can be counter productive if what one really wants is information on the administration of a two-tiered system of devaluation. The point again stresses the importance, alluded to before, of having professionally trained staff to man information centres.

It is also important for those who influence policy decisions, and those who plan and implement policies, to see the formation of policy in the wider context of the particular developmental process for that country and to be aware of all the possible inter-linked consequences that can occur, so that the decision to implement a Caribbean Food Plan, must take into consideration the nutritional aspects of the Plan. Information requested then must be comprehensive. In addition, it must be realized that information requested in bits and pieces will be supplied in bits and pieces. A storehouse of information ought not to be built up in such a haphazard manner.

Apart from the general failure of those who inform policy decisions to appreciate the real importance of information retrieval, they have failed to respect the fact that the quality of staff and financial arrangements, determine the quality of service offered. It must always be remembered that quite often technicians and planners are not in a position to foretell what kind of information is needed, either at the planning or implementation stages. This situation taxes the ability of the librarians to be versatile and to show initiative in acquiring information at short notice.

The results of a survey being carried out by the Association of Guyanese Libraries, in order to evaluate library services in the country and to suggest measures for their improvement to the Government, are quite relevant for our attempt to establish adequate information and documentation services.

It was found that some of the needs of those informing policy, are not being met in the following areas:

- a) Comparative studies of relevance from other developing areas that could be profitably used in the Caribbean.

In addition to knowing what can be achieved, it is also important to know what those with limited resources can achieve.

- b) Material in management procedures applicable in a region with special problems.
- c) Material on administrative procedures, in a region attempting to break away from inherited traditions no longer applicable to the region - and to devise more suitable procedures.
- d) Manuals on the writing up of feasibility studies.
- e) Manuals on the process of evaluating feasibility studies and projects - so often devised by experts from developed countries.
- f) Varying kinds of statistical data, over and above the minimum which is now produced in the region.

The state of statistics in the region is worth examining, for in all policy decisions it is necessary to have the statistical information at hand.

So far the following type of statistical information is available throughout the region in varying degrees of being current in the published form - estimates; trade reports - quarterly and annual; economic surveys and projections; external/overseas trade reports and statistics; population census; banking and financial statistics; cost of living indices. The following type of statistics are available in published form only in Jamaica, Trinidad and Tobago and Guyana, and is quite often out of date and irregularly published: education statistics, international and internal migration reports; trade in Agricultural Marketing Protocol commodities; public accounts; household budgeting and expenditures; indices of monthly retail sales; population trends and housing needs; national income and production; building activity; census of agriculture; awards of scholarships for training and in what specialities; labour force statistics; manpower reports; tourism surveys, income earnings of individuals; economic indicators, manufacturing census; land utilization reports; social indicators.

Some of the above mentioned statistical data have not been published for some time, and in others there is a considerable time lag. However, it must be emphasized that requests for this type of information, and even more specialized statistics are usually met by the central statistical offices from their work sheets. The method of obtaining the information is tedious and time consuming, and is largely dependent on personal contact. The fact that many libraries and documentation centres do not have the information is no reflection on their acquisition programme, but on the state of statistical data collecting and reporting within the region. An important source of statistical data, can also be departmental administrative reports. Several government departments in the region have abandoned these reports, and in other cases the reports are as much as 3-5 years behind schedule.

It is envisaged that at the completion of two on-going projects, the UNDP-CARICOM statistical project, and the UNDP-ECCM statistical project, the state of statistical information in the CARICOM territories will be much improved.

CONCLUSION

In conclusion it must be recognized that there are few libraries in the region geared to meet the needs of technicians, policy-makers and planners, especially when one takes into consideration the number of special libraries that have been established.

That it is imperative for governments to recognize the importance of information in decision making, and to give priority to setting up services that can ensure the best systems of retrieval and dissemination of information.

That systems of co-ordination and co-operation must be formalized at the national and regional levels to provide maximum service at minimum costs. In this connection it is vital that the process of providing tools for the retrieval of literature be speeded up.

That there is need for up-to-date statistical data in the wide areas of activities, as well as in the areas related to detailed social indicators.

That there is an information gap regarding project evaluation manuals, management and administrative literature of relevance to the region (despite the noteworthy efforts of the Management Development Centre in Trinidad and Tobago, regarding management literature).

That it is imperative that confidential material, which is so vital to informing policy, be listed, organized for retrieval, and made available to the wider group of users.

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Titles of Indexes and abstracts available in Guyana Libraries

Caribbean Publications

QIRS: Index to Daily Gleaner

CARDINEX

Catalogue of serials in University of Guyana Library

Statistical Digests [from CARICOM Member States]

West Indian Social science index [Guyana Library Association]

Management abstracts

Other Publications

Abstracts

AID research and development abstracts

Abstracts: World medicine

Abstracts on criminology and penology

Abstracts on tropical agriculture

Commodity yearbook statistical abstract service

Doors to Latin America

Education abstracts

Excerpta medica

Forestry abstracts

Industrial development abstracts

Industrial relations abstracts

International digest of Health Legislation

International political science abstracts

Library and information science abstracts

Personnel and training abstracts

Personnel management abstracts

Rural recreation and tourism abstracts

Sociology abstracts

Tropical oil seeds abstracts

Tropical storage abstracts

Work related abstracts

Work study and O & M abstracts

World agricultural economics and rural sociology abstracts

Other Publications

Indexes

Agrindex

Aslib book list

Applied science and technology index

Australian Public Affairs Information Service: a subject index to
current literature

Bibliographic index

Book review index

British technology index

Business periodical index

Chronological and analytical index to Newsletter on Common Agricultural Policy 1963-1975

Commission of the European Communities - Documentation bulletin

Contents of current legal periodicals

Contents of recent economic journals

Current contents: Social and behavioral sciences

Development index

Devindex Canada: Index to 1975 Canadian literature on economics and
social development

Educational documentation and information

FAO documentation

Index medicus

Index translationum

International bibliography, information, documentation

Key to economic science

Public Affairs Information Service (PAIS)

Readers guide to periodical literature

Serials list of the International Development Research Centre Library

UNIDO Documents list

UNIDO guide to information sources

Union list of serials in libraries of the U.S. and Canada

United Nations document index

United Nations Library - Monthly list of selected articles

Vertical file index

THE CARIBBEAN DOCUMENTATION CENTRE
AND REGIONAL CO-OPERATION FOR INFORMATION

Prepared by
Wilma Primus
Documentalist/Librarian
Caribbean Development and Co-operation Committee Secretariat
CEPAL Office for the Caribbean

THE CARIBBEAN DOCUMENTATION CENTRE
AND REGIONAL CO-OPERATION FOR INFORMATION

By Wilma Primus

FRAME OF REFERENCE

Intra-Caribbean Technical Co-operation

The Work Programme of the Caribbean Development and Co-operation Committee states the objectives of the member countries as follows:

- to expedite the process of mutual exchange, eliminate deficiencies in communication, data gathering and distribution, and establish a system for collecting technological and methodological data covering the sub-region.

The Caribbean Documentation Centre created as an instrument to support these regional co-operation activities, aspires to fill the gaps in the supply of information to policy-makers and researchers, strengthen the information systems of individual Caribbean countries and create a regional information network.

The Secretariat of the Caribbean Development and Co-operation Committee (CDCC) has been instructed to pursue these objectives by drawing on the efforts of CDCC member governments themselves and from other Caribbean institutions. From the report of the Second Session of the CDCC (E/CEPAL/1039), guidance is given as follows:

"The efforts at co-operation and co-ordination especially the convening of the (UN) Inter-Agency Meeting were welcomed. However, it was stressed that efforts should be directed towards greater horizontal co-operation, expansion of on-going projects to include countries not previously covered, and the use of expertise and experience from member countries in regional projects. It was stressed that the horizontal co-operation realized through the Committee should be pragmatic and focus on fields where action was feasible and urgent. It was agreed that the CDCC Secretariat, in consultation with the specialized agencies, UNDP and other United Nations bodies concerned, should explore these areas further".

Furthermore, horizontal co-operation as a policy strategy is stressed by the eighth resolute paragraph of the Declaration of Santo Domingo, which in turn derives from the first resolute paragraph of the Constituent Declaration.

The mandatory statement indicating the major priority in the CDCC Work Programme - Intra-Caribbean Technical Co-operation - reads:

"The willingness of the countries to share their capacity and experience is an essential prerequisite for collective action aimed at substantive change of mutual benefit".

Consequently, horizontal co-operation must form the context for solving problems of information in the Caribbean, or meeting any other priority decided by the member governments. It is in this frame of reference that the Caribbean Documentation Centre has evolved and that a proposal for a regional information system is formulated.

Implementation of the mandates related to Intra-Caribbean Technical Co-operation

To lay the infrastructure for intra-Caribbean technical co-operation the CDCC has instructed its Secretariat to carry out four inter-related CEPAL/UNESCO projects:

- a) the Caribbean Documentation Centre;
- b) two Caribbean Councils: one for Science and Technology, and one for Social and Economic Development;
- c) a programme for the Removal of Language Barriers; and
- d) a programme of Life-Long Education, comprising the creation of a Caribbean Enterprise for the Production of Printed and Audio-Visual Materials, and the establishment of a Network of Centres for Cultural Retrieval and Animation.

Implementation of all four projects has been initiated. The first two have an immediate bearing on the decision-making processes, and merit some attention. Details on the Caribbean Documentation Centre will be

presented later on in this paper, and one only needs to call attention to the following data recorded in the Second Session Report:

"The Committee welcomed the establishment of the Documentation Centre at the CDCC Secretariat which should be co-ordinated with other bodies in the region involved in related activities. Support for its operation was offered by member governments and agencies".

The Committee further mandated the convening of the Meeting now taking place, in order to assess the efforts already undertaken and to formulate recommendations for future development.

The Councils for Science and Technology, and Social and Economic Development aim at stimulating an endogenous process for the creation of knowledge relevant to Caribbean circumstances, and at accelerating the interchange of experience. Feasibility studies and draft statutes for both are completed, and will be submitted to respective expert meetings for discussion. In these proposals, co-ordination of activities to be realized by the Councils fall under the responsibility of their respective membership; the Secretariat of the CDCC will service them in a similar capacity. While the international community is being approached for assistance in the tasks of the Councils, the thrust of these ventures is to organize a self-propelled process of scientific development. At the third session of the CDCC scheduled for early next year, design of the Councils will be tabled for consideration.

The mandates from which different UNESCO Consultants and the CDCC Secretariat have sketched the Councils demand a large participation of the specialists involved in scientific research, teaching, policy formulation and implementation. In the current Programme of Activities of the Secretariat, the CDCC member governments have stipulated:

"In order to strengthen collaboration between the different academic systems and other governmental research centres, it is proposed to create Councils for Science and Technology and for Social and

Economic Development. Both Councils will initially concentrate their action on stimulating research and the exchange of experience and knowledge among Caribbean institutions and scholars".

Progress in science and technology, and in the social sciences will therefore rest on institutionalized flows of exchange and co-operation, and on intensive participation of policy-makers and researchers. Similarly, the control and channelling of an increased flow of information imply an adequate sub-regional institution, whereby horizontal co-operation among Caribbean librarians and documentalists, and between them and the policy-makers of the sub-region will be ensured.

Moreover, this sub-regional institution should provide a situation in which the internal processes of development in the information sciences enables its membership to profit and sort out such external assistance and such technological innovations which will strengthen intra-Caribbean technical co-operation. If success is achieved, it is expected that the role of the Caribbean documentalists and librarians in the advancement of the sub-region will be more meaningful, and that the image of the profession will be endowed with a prestige consistent with the efforts invested.

Building from available resources

Horizontal co-operation begins with the acknowledgement of the fact that the degree of development of sub-regional information infrastructures lies at a very low level. But it also implies that the alternative is not to superimpose new systems without any roots in the sub-region or partially alien to the circumstances of various other countries. In spite of the weakness of existing information services - which does not necessarily derive from deliberate omission or unawareness - certain advantages are inherent in the present situation and cannot be overlooked:

- 1) Even with inadequate resources, private and public information units are servicing different types of policy-makers and decision-preparing agents. This linkage, whether formal or

informal, is to be preserved and strengthened, if information is not to be pursued for its own sake. Since the resources are scarce, dissipation of efforts to build up sub-regional or international schemes can be justified only if the net result helps to meet more adequately the needs of national and sub-regional priority users.

- 2) The present linkages between policy-makers, policy-preparing agents, librarians and documentalists have resulted in some progress in the overall Caribbean development process. Many decisions taken have been quite appropriate. To avoid disruptions or dislocations in an already functioning system of interchange, the introduction of technological innovations must be a gradual process, with intensive participation of interested persons, supplemented by a planned programme of continuing education.
- 3) Low level of development of some Caribbean information units is consistent with the local circumstances. Sophisticated innovations in the information sciences available in the world market today are far beyond the present stage of technological progress in some of the countries. If the financial and technological dependency of the sub-region is not to be stimulated through the absorption of external assistance, some mechanism has to be set up, to ensure a real development of the information sector and to by-pass its mere process of growth.
- 4) If the less-developed countries have to reduce the gaps which separate them from the more developed ones and from the outer-world, the mechanism referred to in the previous paragraph should at the same time stimulate their process of endogenous development, and thus can only be designed with existing resources within the present unstructured arrangements.

By applying a strategy policy based on horizontal co-operation, advancement is possible with "resources on board", and external assistance will be more fruitful since it will supplement the activities of a tightly-knit network of information services.

The actions implemented by the Caribbean Documentation Centre are as modest as the resources at its disposal. This paper will describe the efforts realized during less than a year of functioning. They cover various fields but have one basic aim: to endow the Caribbean with a decentralized information system. By making the documentation centre operational, by programming to assist the member governments (and

through CARICOM the Associated States) in the development of National Information Systems, and by searching for a formula for a sub-regional Information Network consistent with its basic policy strategy, the CDCC Secretariat is implementing the mandates on Intra-Caribbean Technical Co-operation. Only a self-reinforcing process of mutual assistance will deliver outstanding results.

THE CARIBBEAN DOCUMENTATION CENTRE

Objectives

The Caribbean Documentation Centre began operations in January 1977, drawing on the existing library facilities at the CEPAL Office for the Caribbean. Its general objectives are:

- to support the development and co-operation activities of the Caribbean Development and Co-operation Committee; and
- to promote and facilitate optimum utilization of the information resources available within and outside the sub-region.

More specifically, the Caribbean Documentation Centre will:

- provide national planners and policy-makers, research centres specializing in Caribbean problems and international organizations assisting in Caribbean development activities with pertinent, accurate and up-dated information relating to priority sectors on which regional co-operation actions are to be centred; and
- assume the responsibility of a co-ordinating body in order to secure a balanced and integrated development of national information systems in the sub-region, and facilitate the flow of information among the Caribbean countries, and between them and regional as well as international systems.

Programme Organization

During the short period of existence of the Caribbean Documentation Centre emphasis was placed on setting up technical procedures and establishing mechanisms to fill the existing gap in the supply of information, in order to respond to the information demands of the Secretariat staff in their fulfilment of the CDCC Work Programme.

A profile was formulated for the Secretariat, using descriptors provided in the OECD Macrothesaurus. In this way, a file of relevant references is gradually being built-up for priority sectors of the region. This was followed up by a questionnaire to staff and a subsequent meeting with them to secure further clarification and

elaboration of their information needs. It is hoped that this present meeting will provide the basis of national information demands, and of co-operative measures to satisfy them.

Selection and Acquisition

The nature of the service to be provided by the Caribbean Documentation Centre (i.e. dissemination and referral) demands that emphasis be placed on the acquisition of a collection of basic reference tools to support selection for the referral file, and where necessary, acquisition of Caribbean and development studies literature. The Caribbean Documentation Centre immediately obtained the national bibliographies of the sub-region, accessions lists of libraries and documentation centres in the Caribbean and of libraries abroad specializing in Caribbean and other development literature, and began to build up gradually a collection of abstracts and indexes. A select collection of special library and information science literature is also being developed.

While it is not intended that the Caribbean Documentation Centre should be a collector of documents, definite steps had to be taken to acquire the non-conventional Caribbean literature which is not covered by normal bibliographic control. This has proved a particularly difficult task: for example, political decisions, studies and activities initiated by member countries, reports on the meetings of experts, progress reports, development plans, development projects, all produce valuable information which is seldom published, little known, scattered and difficult to access for reasons of security, competition or research priorities.

In response to a request from the Secretariat, each government has appointed a liaison officer to work closely with the Caribbean Documentation Centre providing it on a regular and systematic basis with those official documents which are essential to the Work Programme. While this strategy is producing results, it seems too early to evaluate its success.

Caribbean Statistical Data

Good relations established between the CEPAL Office and the statistical offices of the sub-region has enabled the Caribbean Documentation Centre to develop a comprehensive collection of published and unpublished statistical data on the Caribbean. The Centre is now examining the possibility of developing a statistical data bank that would store and retrieve time series of major economic and social indicators for all of the CDCC countries. After basic series by country have been stored, it would be possible - given the adequate technology - to cross-classify data or even group data by type across countries. This would suggest the need for a forum of suppliers of statistical data - personnel from the various statistical offices, and specialist agencies, e.g. Caribbean Tourism Research Centre - to discuss feasibility and timeliness in the supply of such data to the Data Bank. Since the data to be stored must of necessity be user-oriented, the decision of what is to be stored would be influenced by the demands made on the national statistical offices by government planners, other researchers, and the demands if different, made by International Organizations such as the United Nations family of organizations. The Data Bank must have the capability to describe the statistics stored. As such, it must collect and reference all methodologies, explanatory note to series, and other qualifications of the data.

At the outset, the Data Bank should seek to collect data on:

- Trade : with a CARICOM country sub-total
- National accounts : at sectoral level
- Prices and the methodology employed
- Money and Banking
- Production of main agricultural and industrial commodities
- Electricity generating capacity and number of kilowatt hours generated
- Tourism statistics
- Construction statistics
- Social indicators
- Any other series deemed to be of importance to the sub-region.

United Nations Network

The fact that the CDCC Secretariat was established within a United Nations agency responsible under its terms of reference for co-operation in the economic and social development of the region, enables the Caribbean Documentation Centre to automatically receive and have access to a wealth of information relevant to development. In addition, the United Nations and its specialized agencies have taken active steps to resolve the question of how best they might assist member states in developing mechanisms for the international sharing of technological information supportive of the international transfer of technology. They are currently engaged in creating a number of information systems. The Caribbean Documentation Centre will be a focal point in procuring and disseminating this information to the sub-region.

At the international level, the Economic Commission for Latin America (ECLA) called for an inter-agency meeting in June 1976. At this meeting all United Nations bodies concerned with matters within the scope of CDCC action, agreed to supply information relating to the Caribbean. Inter-agency meetings are held after every CDCC session and contact with the United Nations family of organizations is continuous.

Specialized United Nations Topics

Transnational Corporations: Efforts continue to be made to assist developing countries in their negotiations with transnational enterprises. It has been found that in spite of the proliferation of government agencies, private institutions, and inter-governmental organizations involved in the collection and analysis of information on transnational corporations, even the most basic information is hard to find without an extensive and laborious search. The Centre on Transnational Corporations of the United Nations has begun to accumulate information and knowledge which will assist governments in formulating policies in dealing with transnational corporations. For example, governments may wish to benefit from the experience of other governments when considering possible

legislation or policies on foreign investments, or they may wish specific information on a particular transnational corporation, or they may wish to obtain information on the terms and conditions of comparable agreements in order to have a better appreciation of the broad range of options available to them.

Industrialization: As a component of the overall technological information network, UNIDO recently initiated a pilot operation of an Industrial Technological Information Bank to assist developing countries in acquiring technology suited to their needs. The Bank is concerned primarily with the selective processing of technical information and assesses the information to determine suitability of application. Initially, its activities will concentrate on four sectors - iron and steel, fertilizers, agro-industries and agricultural machinery.

The importance of adequate knowledge on appropriate technology which can be acquired by adopting methods already in use by other countries with production and market conditions similar to the CDCC's, cannot be underestimated.

Technical Co-operation Among Developing Countries (TCDC): The United Nations Development Programme (UNDP) introduced a new information referral system which collects and disseminates information on the capacities of developing countries which make themselves available for technical co-operation programmes with other developing countries, through bilateral or multilateral arrangements. The system gathers information on training and education, research and technological development facilities, and expert and consultancy services.

Environment: The International Referral System (IRS) for sources of environment information is a mechanism to interconnect users of environmental information with appropriate sources of such information. A user, upon addressing a query to IRS, would be given a selected listing of information sources most likely to satisfy his information

needs and to help him in dealing with his particular environmental problems. IRS refers users to potential sources of information and is not a source of environmental information itself.

Service: While the Caribbean Documentation Centre intends to examine the feasibility of applying automated processing and retrieval devices for the establishment of a current awareness service and selective dissemination of information, this is not feasible at present, especially on a scale corresponding to the wide range of CDCC information demands. Nevertheless, there is an urgency to respond more actively to the immediate information needs of CDCC priority users. Although at present, service is provided mainly to the staff at the Secretariat, the Centre intends to prepare and distribute as from 1978, a trilingual monthly bulletin of current references arranged in the following sections:

- a list of recent accessions arranged by subject areas directly related to the priority sectors of the CDCC Work Programme;
- a list of recent documents prepared by the ECLA Office for the Caribbean;
- bibliographical references to recent publications and documents of relevance to the CDCC Work Programme but not existing in the Caribbean Documentation Centre;
- a directory of on-going Caribbean research projects (within and outside the sub-region).

The Centre will also offer a document procurement service, especially to those governments whose information infrastructure is still in an embryonic stage.

CARIBBEAN AND NATIONAL INFORMATION SYSTEMS

National Information Systems

While the Caribbean Documentation Centre has taken short-term measures to meet specific needs, efficiency of the Centre in providing the demanded services will depend largely on adequate mechanisms of

information flow, and on its degree of access to relevant information facilities existing within and outside the sub-region. Ideally nationally planned and co-ordinated systems would provide this access.

Planning for information systems must be incorporated into overall national development plans, since information is a vital resource of every country. In formulating their national development plans, Jamaica and Cuba have paid attention to the systematic organization and dissemination of information. One of the aims of the Caribbean Documentation Centre is to encourage the establishment of such systems throughout the sub-region. The Joint ECLA/UNESCO Programme includes a Supplementary Note on the Caribbean Documentation Centre (E/CEPAL/CDCC/19/Add.3), proposing a project for advisory services to CDCC governments on the development of National Information Systems (NATIS). The proposal was adopted by the Committee at its Second Session in Santo Domingo. Efforts made by the CDCC Secretariat to secure external assistance for this purpose have not yet been successful.

While it is preferable to co-ordinate and plan for all the elements involved in providing information to all sectors of the community and categories of user, the passing of the necessary legislation and subsequent implementation usually take some time. An alternative position, proposed by UNISIST, is to interconnect existing sectoral systems inducing them to adopt common standards and establish exchange agreements which will improve the overall efficiency and check the rising costs of acquisition and processing.

In such instances, emphasis is placed on co-ordinating information facilities in sectors which are given priorities in the overall national development plans, with one information unit being given firm governmental support as the national focal point for the specific sector. Where the government feels it necessary to support the unit with the best collection in the field (whether this be a university or special library), special regulations ought to be made to ensure that

this information is accessible to the country as a whole, and that the selected library takes the lead in developing not only the country's information resources for the particular sector, but adequate mechanisms for the flow of the information. Each sectoral focal point should be responsible for contributing to the national bibliography, establishing union catalogues of the holdings of the constituent libraries, standardizing bibliographic procedures, centralizing processing, abstracting and indexing, inter-library lending, publishing of guides to the collections and sources, and the training of specialized personnel. This option may be impractical for some of the less-developed countries where it may be preferable to centralize information for all sectors in one library.

In the absence of some form of National Information System, effective links of co-operation and co-ordination will have to be established with information services covering the subject areas relevant to national priorities, in order to avoid unnecessary duplication of efforts and secure mutual exchange.

From National to Sub-regional Information Systems

With an integrated National Information System in every CDCC country, there would still be room for the establishment of a sub-regional network and for mutual support and exchange of experience.

At the sub-regional level, the CDCC member governments have in various mandatory documents signified some priority sectors. They have even pinpointed specific subject matters within these sectors. These policy decisions offer the basis for the initial setting up of a sub-regional network. It may result from two types of activities:

- a) the CDCC Secretariat could endeavour to promote the establishment of Sub-regional Sectoral Networks (SSN) dealing with CDCC priority sectors, e.g. socio-economic data, marine resources, transport,.....

- b) national sectoral units with the assistance of the Secretariat, could take the initiative of organizing sub-regional networks of their interest.

A Caribbean Information System (CIS) could evolve therefrom and will consist of a gradual aggregation of Sub-regional Sectoral Networks (SSN), for example, the Caribbean Network of public health information units, of marine resources information units, and of prime interest for the sub-region, a Caribbean network of statistical information units.

Sub-regional Sectoral Networks (SSN)

To achieve effectiveness and optimum utilization of existing resources each Sub-regional Sectoral Network (SSN) ought to be an autonomous working group, co-ordinated by participating institutions, whose representative will meet to discuss such matters as: rationalization of the documentation activity at every stage of document processing; inter-service co-operation beginning with indexing, abstracting and guides to the collections; elements of a de-classification policy for the sector; re-orientation of services to meet the changing needs of the sub-region; user education; professional training; problems in developing user profiles; and generally, plan the distribution of tasks among different focal points. Taking into account the characteristics of the field of information they deal with, as well as the resources of the units participating in the networks, participating information units will choose a sub-regional focal point which will play the role of Secretariat to the Sub-regional Sectoral Network (SSN).

In the field of agriculture, the basis of such a system already exists. Cuba, the Dominican Republic, Guyana, Haiti, Jamaica and Trinidad and Tobago are all members of a regional programme for agricultural information, AGRINTER. As such, each national focal point reviews the sources of agricultural information in its country, identifies the information from these sources and reports such information to AGRINTER (the regional focal point), who then transmits it to AGRIS, the international centre.

Statistics is another area where a sub-regional network can be formed without much difficulty. Many CDCC countries already have libraries at their statistical offices, or, in cases where universities or institutes of statistics exist, strong collections may have been developed for the purpose of teaching statistical analysis.

In the field of labour, libraries may exist at the Ministries of Labour, Labour Colleges, or Industrial tribunals, with strong collections in labour legislation, productivity, trade unionism, personnel management, labour force, labour mobility, etc.

The more advanced sub-regional networks will maintain relations with world-wide sectoral networks and plan for automation, others will concern themselves with collection building, standardization, training of specialized staff, etc. In other instances, existing resources may be slender and the Caribbean Documentation Centre may have to undertake the role of temporary focal point. In any event, the objective to be achieved by the Sub-regional Sectoral Network, is an intense process of dialogue and discussion, whereby the various problems faced in information science are discussed, tasks distributed and tackled by those who will put the solutions into practice.

Caribbean Congress of Librarians and Documentalists

Assuming that a given number of Sub-regional Sectoral Networks (SSN) and of National Information Systems, are functioning an advisory body formed by the aggregation of the heads of the National Information Systems, advised by the Heads of Sub-regional Sectoral Networks, emerges and can be conceived as a Caribbean Congress of Librarians and Documentalists.

It would seem proper to differentiate the Councils for Science and Technology and for Social and Economic Development from an advisory body which cuts across these Councils, and whose designation may be the Congress of Librarians and Documentalists. In the Councils, policy-makers will deal with problems of social, economic and technological development.

Scientists will participate in these discussions in an advisory capacity. The Congress will give support to such activities by supplying both policy-makers and researchers with adequate information. But within the Congress, information specialists will carry out the discussions, trying to meet the requests of priority users. One may conceive the decisions of the Councils to be mandatory to the Congress, and vice versa. The Congress comprises mainly a set of technicians, and the Councils a set of policy-makers.

The Congress of Librarians and Documentalists will advise on technical matters related to scientific and technological information, as well as information dealing with social sciences. It will decide on which SSN needs special assistance, will allocate funds for such purposes, and will design a general policy of standardization and homogenization of information flows. In respect to manpower planning, the Congress will formulate recommendations to the SSN, organize seminars, training courses in conjunction with the Schools of Library and Information Studies, exchange of scholars, etc. While each sub-regional focal point serves as Secretariat to the Sub-regional Sectoral Networks, the Secretariat of the CDCC would serve as Secretariat to the Congress, ensuring a permanent relation with the Caribbean Development and Co-operation Committee, and through the Committee with the United Nations family of organizations and other members of the international communities.

It should be clearly understood that the proposed Congress is not a professional association of librarians and documentalists, and therefore does not compete with existing associations. It is a special forum for the application of documentation and dissemination techniques to specific decision-making processes. While each unit in a Sub-regional Sectoral Network (SSN) is related to a given group of decision-makers, and while SSN should have regular meetings with the whole set of sub-regional decision-makers, the Congress, to be really effective, and to ensure a permanent link between information and policy-decisions, should have

access to the CDCC. It would be therefore an advisory body to the Committee (like the Councils), and its recommendations would be directly tabled at the Sessions of the Committee.

A Caribbean Information System (CIS)

The aggregation of Sub-regional Sectoral Networks and National Information Systems, co-ordinated by the Caribbean Congress of Librarians and Documentalists, servicing the CDCC member governments as an advisory body constitutes then a Caribbean Information System (CIS). This arrangement would ensure:

- 1) that every information unit or sub-system is at all times linked with corresponding decision-makers, and that the whole Caribbean system maintains a two-way contact with the sub-regional decision-makers;
- 2) priority-users at all levels are served by their respective information units, and this effort can be channelled through the focal points or the Secretariat of the Congress to the international information systems, while the wealth of data available at these levels can be disseminated to interested members of the Caribbean Information System, according to their needs, and through the same channels;
- 3) existing, employed librarians and documentalists will be involved in an intensive on-the-job training programme, supplemented by specific training courses or seminars designed by the Sub-regional Sectoral Networks (SSN) or by the Congress of Librarians and Documentalists, in collaboration with the schools of library and information studies. The process of participation is initiated from the very decision of creating the SSN, organizing courses, exchanging experiences Since participation in the Caribbean Information System and in the Sub-regional Sectoral Networks is voluntary, and implies sharing of tasks, a maximum benefit should derive from resources channelled towards the system, and applied wherever self-propelled action is taking place;
- 4) innovations will be introduced to serve the whole system or specific networks, according to decisions taken by the Congress and approved by the CDCC. The effect of these innovations will be multiplied because of the mechanisms

of collaboration already set up, while overall control of the CDCC will ensure that external dependency is maintained at its lowest and most harmless level; furthermore, technological progress in a given network will ease modernization in others, and the multiplication of networks will help the utilization of capital investments at their full capacity;

- 5) less-developed countries will not be exposed to inadequate external assistance, and will have within their reach advisory services and experiences compatible with their circumstances. They will be able to profit from technological facilities available in more developed countries, without the costs of purchase and maintenance.

From Sub-regional to National Information Systems

The initiative to set up a Sub-regional Sectoral Network (SSN), may come from any Caribbean information unit, and priorities not considered by the Committee as sub-regional ones, can be serviced by the aggregation of information units pertaining to countries which experience certain specific needs. (Cases in point could be the set of problems related to literacy campaigns or bilingualism). Therefore the impact of the different sub-regional networks in a given country will be to strengthen sectors of importance for national development. A government which has no resources or does not see it fit for some other reason to initiate action by creating an integrated National Information System, is then in a position to strengthen priority sectors and to progress gradually toward a complete set of information units, absorbing the benefits deriving from sub-regional co-operation, according to its own pace of development.

CONCLUSION

The setting up of a National Information System is indeed highly recommended. Nonetheless, such a system will only achieve maturity and effectiveness through a rather slow process of optimizing the use of available resources to the needs of the respective national societies. Meanwhile, the organization of Sub-regional Sectoral Networks and of a Caribbean Information System could assist the governments in setting up their national systems, could ensure intra-Caribbean technical co-operation,

foster a better utilization of human resources employed in the information units and strengthen the bargaining power of the whole sub-region.

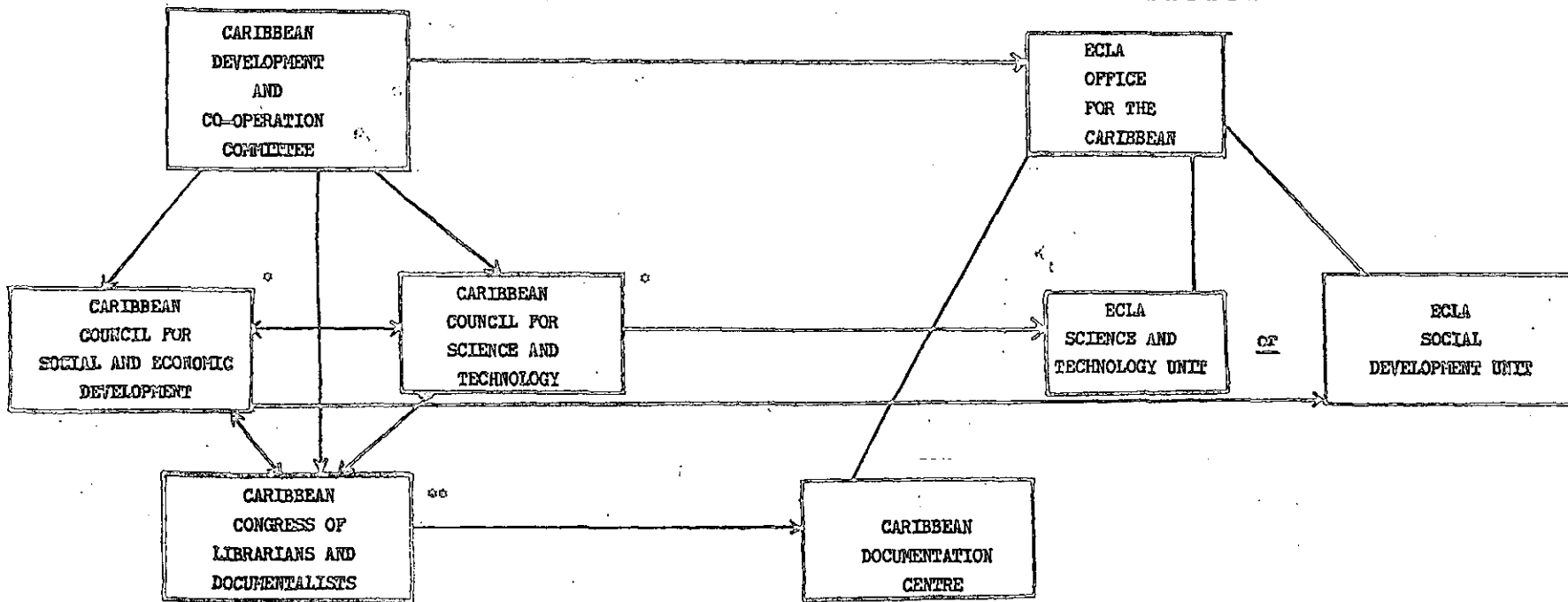
Need for a Feasibility Study

It must be said finally that this proposal does not preclude the need for a feasibility study, which would take into account existing linkages with international sectoral information systems, arrangements between campuses of the University of the West Indies, characteristics of similar CDCC organs like the Caribbean Council for Science and Technology, and the Caribbean Council for Social and Economic Development, as well as relationships with other Caribbean inter-governmental entities.

Future activities

The future activities of the Caribbean Documentation Centre will be determined by its dual function of responding to the information needs of its priority users on the one hand, and on the other, of promoting and facilitating optimum utilization of the information resources available within and outside the sub-region through decentralization and increased participation in decision-making. While this dual function requires different sets of programmes, in concept and application they are closely inter-related and inter-dependent.

SECRETARIATS



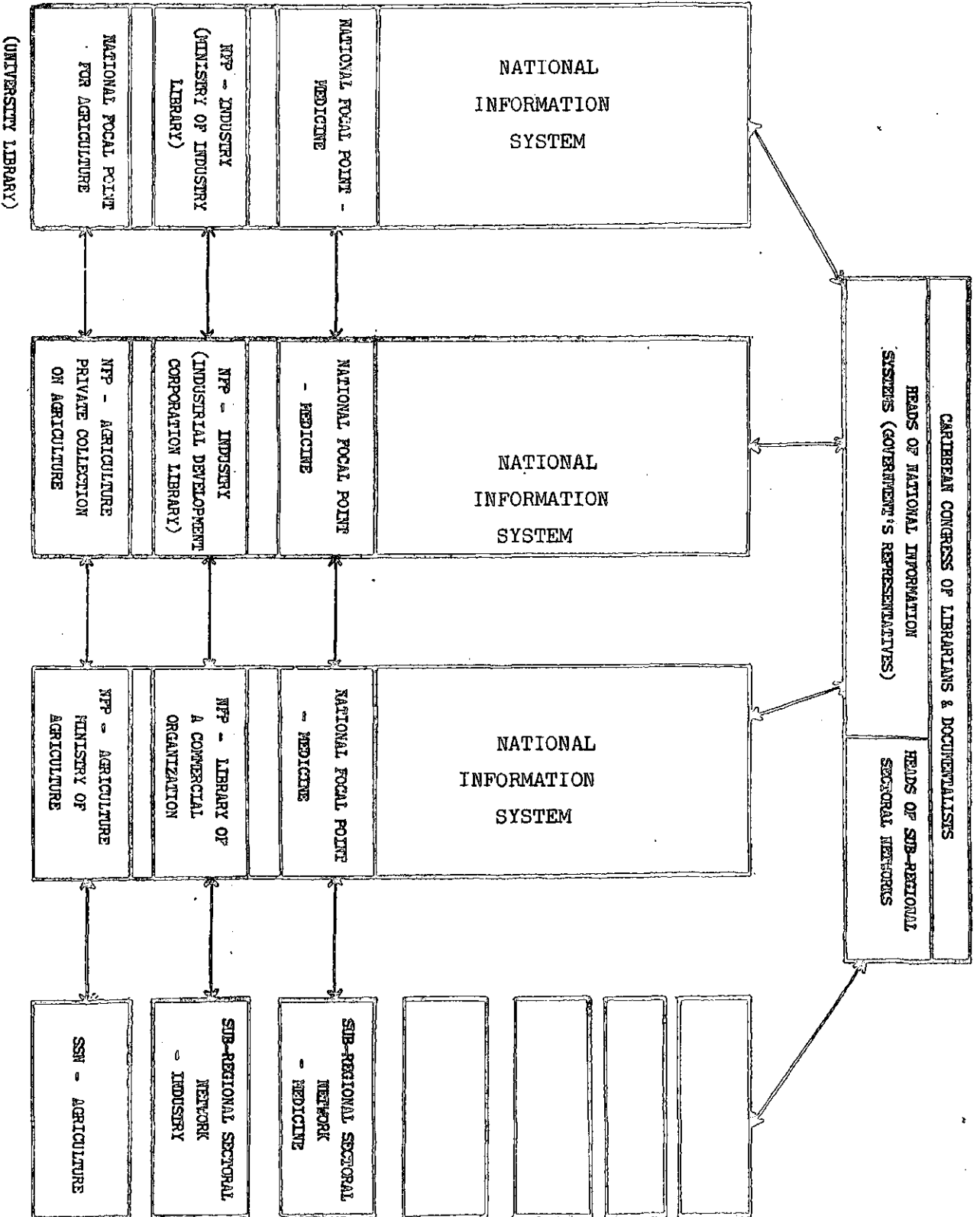
* APPROVED ADVISORY BODIES

STAGE OF IMPLEMENTATION - Completed Feasibility and Draft Statutes to be submitted to Expert Meeting. Recommendation to be Tabled at CDCC III SESSION in Belize 1978.

** PROPOSED ADVISORY BODY

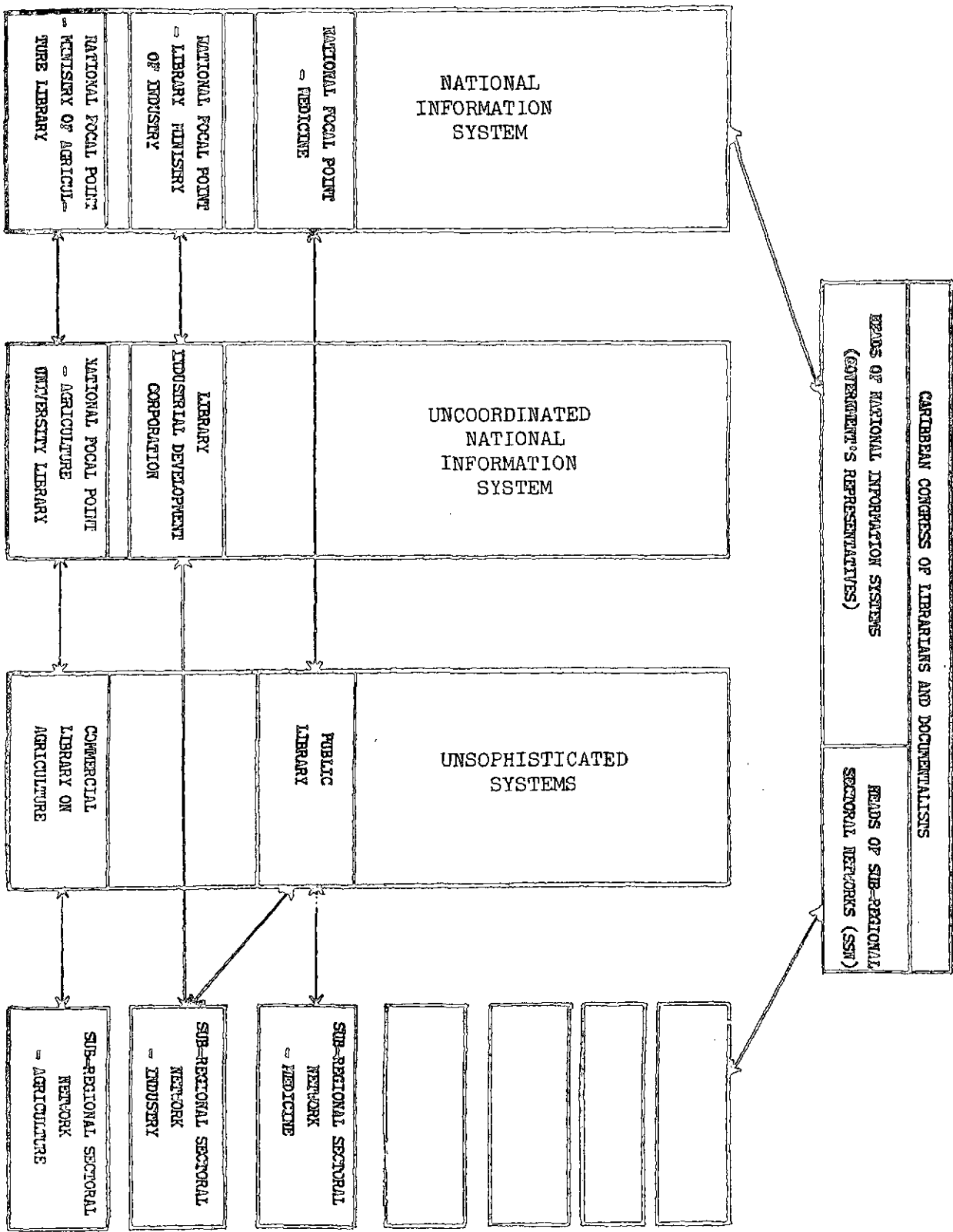
CARIBBEAN INFORMATION SYSTEM 2

IDEAL FRAMEWORK





CARIBBEAN INFORMATION SYSTEM
PRESENT VIABLE FRAMEWORK



THE INVENTORY AS AN INSTRUMENT OF CHANGE:
THE CASE OF DEVELOPMENT INFORMATION AND
DOCUMENTATION INFRASTRUCTURES IN LATIN AMERICA

Prepared by
Latin American Centre for
Economic and Social Documentation (CLADES)

THE INVENTORY AS AN INSTRUMENT OF CHANGE:
THE CASE OF DEVELOPMENT INFORMATION AND
DOCUMENTATION INFRASTRUCTURES IN LATIN AMERICA

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SUMMARY

The countries of the Latin American and Caribbean region are familiar with the preparation of inventories of libraries, documentation centres and archives. These studies are prepared with the purpose, at least on paper, of learning about and evaluating these services with a view to obtaining guidelines for improving and strengthening their structure and operation.

These inventories, which are in fact very numerous and diverse in terms of coverage, depth, institutional sponsorship and period of execution, are to a great extent based on standardized research techniques. Much has been written about the advantages and limitations of these techniques and, in general, about the whole group of methodological problems involved in the conduct of a survey.

The present document, however, deals with a problem to which little attention has been paid in spite of its singular importance, i.e., how to establish a link between the results of a study and the promotion of real changes in information services.

The basic assumption in this study is that such a link certainly does not occur automatically, but requires great co-ordination of actions especially devised for these purposes.

The central postulate of this document is that an inventory project can be made into an instrument of change if: (i) the participation of the institutions studied and subsequently bound to be affected by changes is properly organized in all the stages involved in bringing this about, and (ii) a strategy for communication and dialogue is formulated among the institutions covered by the inventory, so that their interaction will give rise to suitable and feasible policies and action for producing the desired changes.

This study presents an abstract scheme for this second aspect (communication and dialogue) its main purpose being to present concepts which are considered useful for the implementation of a strategy of change. This scheme has been conceived within the framework of CLADES' existing resources for carrying out these activities, but it is nevertheless felt that, with appropriate adaptations, it would be of use to other institutions as well.

The validity of this scheme has yet to be tested empirically. It has, however, begun to be implemented - though on a less ambitious scale - in the implementation of the national diagnostic reports involved in the "Inventory of Socio-economic Information Units in Latin America and the Caribbean" which CLADES is promoting in the region with the sponsorship of the Canadian International Development Research Centre (IDRC).

A first application of these ideas is presented in the attached study entitled "Information and Documentation for Development: Analysis and Presentation of an Inventory for a Latin American Country". That study presents an overall and relatively superficial view of information problems, however, it does make it possible to visualize what a final report would be like incorporating the whole fund of information collected through the CLADES inventory in the region.

INTRODUCTION

There is a widespread tendency, among those responsible for the formulation and execution of policies as well as many specialists and methodologists, to view inventory projects as mere measurements of resources or, on the other hand, as events for carrying out complicated intellectual exercises of an academic nature. By all means this is what is shown by wide experience in Latin American countries, with the logical consequence that the end result of an enormous effort of design, data collection and analysis is a thick, dry report condemned to a passive life on library shelves. The lack of interest in consulting such documents stems primarily from their approach, the unattractive presentation of their contents and their undue length, abstractness and saturation with methodological apologies. Besides, their presentation is often unimaginative, presenting exhaustive outpourings of data, long listings of institutions with their resources, and in general exhibiting the information in a way difficult to handle by those who might make real use of it and carry into practice its recommendations and results. In the last analysis, this has led to a loss of credibility and to scepticism, which could be summed up in the assertion, often heard in the region, that nothing happens and nothing has ever happened with inventories.

Since from the outset the CLADES team responsible for the projects has made it clear that it is not interested in producing yet another inventory, a different approach has been adopted aimed at maximizing the communicability of the data in the survey, in order to transform it into an active instrument and a real catalyst of action to integrate national information infrastructures and information policy formulation at different levels.

In this new approach, however, the limitations to the solutions proposed must be borne in mind from the start. Thus, given the critical nature of the restrictions of time and human and financial resources in CLADES, it is natural to look for solutions based on a standardized, 'mass-production' method of work if urgent deadlines must be met.

The problem dealt with in this paper is the following: to find a scheme of analysis and presentation of the results of the inventory which maximizes its impact in terms of changes in the information infrastructure of the countries, subject to the above mentioned restrictions.

The procedure used to tackle this problem is essentially analytical and consists in breaking down, in a first stage, all the data inputs which have to be processed and transferred to different decision-making levels in the countries. This is followed by a second stage involving the selection, grouping and synthesis of those inputs into what we shall call "feasible analysis modules" which harmonize the criterion of maximum change with that of resource availability.

For this purpose a methodology has been designed which contains the following successive stages:

- i) Definition of the "audiences" i.e., decision or action groups in the information field to whom the results of the inventory will be presented.
- ii) Identification of "levels of analysis", i.e., ranges of problems of varying interest and with different possibilities of action for the audiences.
- iii) Isolation of specific problems, in the development information field, which make up each of the above levels of analysis.
- iv) Identification of the "basic analysis modules" which should cover practically all the relevant possibilities of processing and presenting the data of the inventory.
- v) Preparation of a communication strategy consisting in the choice of a sub-group of "analysis modules" which maximize the impact of the inventory, given the resources available ("feasible analysis modules").

Chapter I

AUDIENCES

In this paper we start from the premise that the change desired in the national information infrastructures can be brought about at the following levels:

- i) A political decision level, basically characterized by authorities capable of taking decisions, designing regulations and allocating resources through which the structure and operation of information units can be changed.
- ii) A technical level of specialists in a position to modify the internal operating behaviour of the units in order to make them work more efficiently.
- iii) A level of users of the development information and documentation services basically made up of professionals specialized in some area of development, either the formulation of policies and plans, their implementation, or the administration and operation of the institutions, projects, or enterprises responsible for their execution.

Obviously, at each level, different groups of persons and/or institutions with different needs in terms of the survey's result presentation can be identified. Table 1 gives a tentative classification of the "audiences". There, it may be seen that each of the groups needs to be informed of the results of the inventory in a different way, at least in principle. The language in which the results are communicated should be adapted to the language normally used by those persons or entities, and in addition the contents should be organized in such a way that the recommendations correspond exactly to variables which those groups or entities are in positions to modify, either directly through political decisions or indirectly through pressure upon or negotiation with the authorities.

It should be stressed that the classification of the different groups in the audience levels is somewhat arbitrary, since an institution may belong to various audiences. It is therefore important to note that the table involves a selection of the most important functions from the standpoint of capability of changing the information infrastructure. For example, the National Information and Documentation Centre has been included in the political decision level,

although it could also be considered to belong in the users and specialists levels. It has been assumed however, that the political level is the most important function by which to characterize it.

Table 1

AUDIENCES

Political decision level	Technical level	Users level (Development Community)
- Authorities. "decision-makers"	- Social science methodologies	- Planners
- Administrators of entities with information units	- Information science researchers	- Administrators
- Heads of National Information Centres	- Information Specialists: heads of networks and services	- Businessmen
- International Information networks promoters (IDRC, UNESCO, IFD)	- Information specialists: technical processors	- Investors
- Librarians and documentalists Associations	- Information Sciences Educational Centres	- Academic researchers
	- International promoters of documentation techniques (IDRC, UNESCO, IFD)	- Consultants
		- Teachers
		- General public

Chapter II

"LEVELS OF ANALYSIS" AND INFORMATION PROBLEMS

With an extensive, detailed inventory such as the one we are dealing with it is possible to study many problems relating to different aspects of the organization and operation of the national information infrastructure. The job of making each of the problems correspond to possible interests of the audience is certainly easier if approached systematically, by arranging and classifying the problems according to clear, pre-established criteria. The aim is thus to produce an organization and content for the feasible reports avoiding the overlapping which would result from a case-by-case design of the reports.

To this end we shall establish two major organizational criteria for inventory problems. That of:

- i) Strategic level criterion, by which problems are classified according to how easily they can be modified by the action of the "audiences".
- ii) Depth of analysis criterion, which is related to the approach or specific angle with which the national information infrastructure is considered. They range from an overall national plan to the study of detailed problems of particular agents.

The combination of these two criteria provides a classification of "levels of analysis", i.e., degrees of organization of the data provided by the inventory for communication to the "audiences". In this chapter we shall examine the internal sub-division of these criteria.

To begin with, the categories of strategic level consist of four strata of increasing intensity.

1. Analysis of representativity: this category provides audiences with information about the validity of the conclusions and analysis presented. The analysis consists in comparing the features of the sample of development information units actually analysed in the inventory with the national universe of development information units and the national universe of information units of every kind. From this comparison an estimate can be made of the relative

importance of the different sectors for which the information units exist, to decide if the sample is biased for example in favour of the university sector or the private sector, etc. Clearly, it may be very risky to speak of the situation of the governmental libraries when the government sector in the sample represents only 10 per cent of the total. The first column of Table 2 gives the details of different problems which should be considered in the analysis of representativity.

On the other hand it is evident that the strategic level is nil in this case, since the audiences can do little to change the results except to produce better answers to the questionnaires of a future inventory.

2. Structural analysis: This category corresponds to problems over which no audience has absolute and immediate control, i.e., they cannot be tackled directly through policies, and even if they could, the results would normally only be seen over a long period. This is primarily due to the fact that the variables which make up such problems are of a historical, institutional and societal nature, whose evolution can only be changed very slowly or with great difficulty. Examples would be the problems of geographical concentration of information units, pattern of growth of information services among the different institutional sectors, etc. (see Table 2, column 2).

3. Conventional strategic analysis: This category groups all the problems which are normally dealt with in inventories. Its great limitation is that by being excessively descriptive it is less operational and interesting and does not allow a clear definition and implementation of information policies. For example, the problem of the quality of the human or physical resources from a global point of view is interesting but does not easily allow for direct concrete action to change the structure of the resources in the short term. Normally a change in these global indicators is only possible by means of a concerted, integrated plan consisting of policies dealing with employment, educational policies, wages, and also, information services pricing policies, legislation on legal deposit, etc. At all events they are indispensable in as much as they constitute a preliminary reference framework for the definition of more precise policies. The problem is that this framework, while valuable, is not sufficient in isolation to specify the necessary policies (Table 2, column 3).

4. Non-conventional strategic analysis: This category comprises problems on which more precise, short-term policies can be defined and which therefore enable a large number of actions to be oriented and realized. The

variables which form these problems are to some extent more controllable and therefore manageable by the corresponding audiences. The "non-conventional" designation refers to the fact that normally these problems are not analysed in other inventories or have not received sufficient importance at the stages of data analysis and elaboration of final reports. For example, the problem of the unit's technical performance is made up of sub-problems such as the choice and adoption of different techniques (openness to innovation) and the approach with which the information unit services are given (degree of interaction with the users). The specification of the factors which influence these sub-problems in principle makes possible the definition of precise guidelines in order possibly to modify this technical behaviour in the short and medium terms. This category therefore has the highest strategic level. (See Table 2, column 4).

The second major criterion by which to organize problems concerns what we have called the depth of analysis. Obviously, one problem can be approached from at least three different standpoints according to the degree of focus:

- i) A national standpoint, for example, a comparative analysis of the number of information units per capita between developed and developing countries.
- ii) An inter-sectoral standpoint, for example, a comparison of the quality of human resources between the public and private sector, or a study of the attitude to technical innovation of the university information units in relation to the government information units.
- iii) A micro-sectoral standpoint, which considers a problem in a sector or a very homogeneous set of units, for example, survey of the data retrieval instruments in International Bodies' Documentation Centres situated in Central America.

The interesting aspect of these two organization criteria is that they are correlated with the interests of the audiences. The problems of representativity will have a greater appeal for persons working in information sciences research or social sciences' methodologists in general. On the other hand, a structural analysis may be of greater interest to bodies at the governmental level which are in a position to manage some of the aggregate national variables.

In addition, the depths of analysis also correspond roughly to different audiences. The global or inter-sectoral standpoint will normally be of interest to the government authorities, national information centres, etc. while the micro-sectoral approach will primarily interest groups of users, groups of library administrators, etc.

The combination of the categories of strategic level with those of depth of analysis provides different "levels of analysis" for the preparation of the reports. Thus one might speak of a "conventional-strategic-inter-sectoral" level, which would mean placing a group of problems of the conventional strategic area - for example, services - and studying them from a comparative inter-sectoral standpoint: For example, the public versus the private sector, the government versus the university sector, etc.

Table 2
LEVELS OF ANALYSIS AND THEIR PROBLEMS

1 Level: <u>Analysis of representativity</u>	2 Level: <u>Structural analysis</u>	3 Level: <u>Conventional strategic analysis</u>	4 Level: <u>Non-conventional strategic analysis</u>
1. Representativity in terms of the total number of information units.	1. Evolution and global growth of national information infrastructure.	1. Human resources.	1. Styles of administrative management.
2. Representativity according to function of entity (government, education, ...)	2. Evolution and distribution of information units according to institutional sector (government, university, ...)	2. Physical and financial resources.	2. Styles of technical management.
3. Representativity according to social and economic fields (economics, planning ...)	3. Trends in the development information holdings.	3. The bibliographic holdings.	3. Openness to innovation.
4. Representativity according to legal nature of entity (public sector, private sector, international bodies).	4. Geographic concentration of national information infrastructure.	4. Membership of national and international networks.	4. Potential openness to networks.
5. Representativity according to geographic location (capital, counties or provinces, ...)	5. Global pattern of links among development agents (users) and national information infrastructure.	5. Information services.	5. Professionalization of the information function.
6. Representativity according to type of information unit (libraries, documentation centres, archives).	6. Evolution of legal framework regulating the information infrastructure.		6. Status of the information function.

Chapter III

"ANALYSIS MODULES" AND COMMUNICATION STRATEGY

"Analysis modules" are elements of reports (groups of concepts and data) which set forth problems or sets of problems of the inventory organized according to a certain level of analysis and presented in a communicable form which is useful and interesting for a specific audience. For example, one module would be constituted by a study on the problem of the professionalization of the information function through a comparative analysis of the professionals in the government sector as opposed to the university sector (level of analysis: non-conventional-strategic-inter-sectoral) to be presented to the Librarians Association of a particular country (specific audience).

In order to avoid duplication of effort, these modules should be prepared in two stages:

- i) "Basic analysis modules": Parts of a report consisting of an exhaustive study, at a given level of analysis, of all the collected data relevant to a problem or set of problems. They include a complete sweep of relations, substantive interpretations and methodological discussions. They are prepared once and used only as internal reference documents.
- ii) "Directed analysis modules": These are prepared by adapting a basic analysis module to the language, interests and mentality of a specific audience which is to be influenced. It would be a reduced version of the above modules and would be written in a fluent language entirely stripped of technical jargon.

Decisions on priorities in the preparation of "basic analysis modules" and their corresponding "directed analytic modules" depends, in a given country, on the existence and importance of the national audiences and the resources available to communicate the information to that country. The specification of the priority set of "feasible analysis modules" (both basic and directed) and their relations to the different audiences would be called a global communication strategy. It is obvious that this strategy will in principle be different for each country since it will depend on the existence, power and permeability of the different audiences which must be influenced.

The global communication strategy of the inventory may be designed on the basis of a synoptic table in which the analytic modules are specified. This Table, which for the purpose of simplification we shall call the Audience Matrix, will establish; (i) the total number of "basic" and "directed analysis modules" which can be prepared, and (ii) which of them have priority and are feasible given the resources available. Table 3 give an example of an audience matrix.

The columns of the table represent the audiences to be influenced, while the side-heading arrange the problems of each strategic level according to the different depths of analysis with which the information resulting from the inventory can be communicated to the audiences. Each box in the table would be a possible "directed analysis module". The boxes marked with an (x), on the other hand, represent potentially important "directed analysis modules", i.e., modules which should be prepared in view of the possible importance of the problem they represent for specific audience.

The sum of the boxes of the columns gives the number of "directed modules" which would have to be prepared for each audience, or in other words, the number of possible chapters of a report to be presented to a specific audience. On the other hand, the sum of the side-headings represents the total number of "directed modules" which can be prepared using one "basic module". The total number of "directed modules" which measures the multiplier effect of each "basic module" is indicated in brackets in the column of totals at the right of the table.

A global communication strategy is established by: (i) preparing a listing of the "basic modules" classified according to their multiplier effect; (ii) evaluating the number of "basic modules" and "directed modules" which can be prepared with the resources available (in principle assuming an approximate average amount of resources for the preparation of each type of module); and (iii) comparing those values with the list to determine a set of "basic" and "directed modules" which both are feasible and have priority.

Table 3 assumes that the audiences are all equally important. Obviously the scheme shown can be altered in a number of ways. For example, priorities can be assigned to the audiences, which signifies a change in the value of the multiplier effect of the "basic modules".

With this table it is possible to visualize the two extremes for the production of reports in an inventory. On the one hand, the full materialization of all the boxes of the matrix (marked or not) would represent an exhaustive analysis and total dissemination corresponding to the technical upper limit of the inventory. Obviously, while this limit is possible it would not normally be feasible for most of the institutions responsible for inventory analysis, and certainly for CLADES. Moreover, it would not even be desirable from the point of view of the audiences, given that it implies a great redundancy of information. An example of the other extreme would be the single report prepared on the basis of the "directed analysis modules" corresponding to one column of the matrix and prepared thinking in terms of a specific audience. This alternative represents the traditional case characterized by a monolithic view of the presentation of information, frequently redundant or insufficient, and written in scarcely communicable language. The suggested procedure would give maximum flexibility to the analysis, dissemination and comprehension of the inventory, and identify perhaps the two, three or four feasible reports with highest priority, which might have the most influence and bring about changes.

Table 3

AUDIENCE MATRIX: SIMPLIFIED CASE WITH 2 TYPES OF AUDIENCES, 4 PROBLEMS AND 6 LEVELS OF ANALYSIS

LEVELS OF ANALYSIS (Strategic level, problems and depth of analysis)	AUDIENCES	<u>POLITICAL DECISION LEVEL</u>				<u>TECHNICAL LEVEL</u>				Basic analysis modules and their directed modules according to problems and level of analysis (TOTALS)		
		"Decision-Makers"	Entity Administrators	Directors of Nat. Information Centres	Librarians Associations	Information sciences researchers	Heads of information services	Specialists in technical processes	Informational and Documentational Educational Centres	N	I	M
<u>CONVENTIONAL STRATEGIC ANALYSIS</u>												
Level of Training of information specialists	N I M	x	x	x	x	x	x	x	x	1 (5)	1 (6)	1 (1)
Level of costs of information services	N I M	x	x	x	x	x	x	x	x	1 (4)	1 (5)	0 (0)
<u>NON-CONVENTIONAL STRATEGIC ANALYSIS</u>												
Adoption of new processing methods	N I M		x	x	x	x	x	x	x	1 (4)	1 (6)	0 (0)
Institutional status of the information function	N I M	x	x	x	x	x	x	x	x	1 (5)	1 (4)	1 (2)
Directed analysis modules by audience (TOTAL)		3	5	8	5	6	9	2	6			

N: Depth of analysis - National

I: Depth of analysis - Intersectoral

M: Depth of analysis - Microsectoral

FINAL CONSIDERATIONS

The following remarks are in order at this preliminary stage:

- i) The proposed methodology is aimed at a rationalization of work and the preparation of a systematic method of preparation of reports.
- ii) The paper suggests a basic terminology which should obviously be improved. It may be viewed, for the time being, as a useful tool of communication among those responsible for inventory analysis.
- iii) It is considered that this flexible scheme is globally more efficient than the production of a single report. Costs can be controlled, and in addition sectoral or partial seminars should become more manageable and fruitful. In these seminars the aim is not only to reach consensus but also to make policy formulation, decision-making and corresponding action more expeditious.
- iv) Finally, the scheme permits a stage-by-stage approach in which the most important and feasible reports can be produced first while the communication strategy is being rounded off, either by delegating the preparation of reports in the countries or by continuing to prepare them in CLADES if budgetary resources are made available after the project has officially ended.

INFORMATION AND DOCUMENTATION FOR DEVELOPMENT:
ANALYSIS AND PRESENTATION OF AN INVENTORY FOR
A LATIN AMERICAN COUNTRY

Prepared by
Latin American Centre for
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INTRODUCTION

At the beginning of 1976, the Latin American Centre for Economic and Social Documentation of CEPAL (CLADES) contacted Latin American and Caribbean countries in order to invite them to take part in a project entitled "Inventory of Socio-Economic Information Units and Networks". The main purpose of this project was to carry out a diagnosis at the national and regional level to stimulate activities for the strengthening and integration of these services, which are indispensable in the handling of information for development.

This initiative, made possible through the sponsorship of the Canadian International Development Research Centre (IDRC), was warmly welcomed in practically all the countries concerned, all of which are member States of CEPAL, namely: Argentina, Barbados, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Chile, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, the Dominican Republic, Trinidad and Tobago, Uruguay and Venezuela.

* * * * *

The present report presents the case of a Latin American country and seeks to illustrate how to approach the presentation of an inventory with a view to securing a change in information and documentation services for development. The report also provides a frame of reference for a discussion on the information problems of the country in question. We should like to emphasize that the document is of a preliminary nature, as it only indicates the general lines or trends of the functioning of the information units, on the basis of the statistical analysis of data obtained from a survey.

The interpretation of this information by those who have a detailed knowledge of the situation will enable a definitive diagnosis to be prepared. For this purpose this draft report is submitted for consideration to information users - planners, research workers, administrators, teachers, etc.; to specialists in the processing of information - librarians, documentalists, archivists, etc. and also to those authorities who have the power of decision in matters concerning national information plans and policies.

Notwithstanding the provisional nature of this document, an analysis of the data has made it possible to identify, inter alia, the following problems and favourable aspects in this particular country. The main problems are:

- Lack of information services in key development field, i.e., production and research.
- Information units operated by only one person, thus hindering effective attention to development needs.
- Inadequacy of bibliographical resources in areas directly connected with development.
- A tendency to diversification of subjects in areas which are eminently specialized.

Among favourable aspects the following may be mentioned:

- A general tendency to set up specialized units.
- The leading role played by the public sector in the establishment of information units.
- The rapid growth in the last decade of information units in the government field.

These results demonstrate the capacity of the inventory to indicate which are some of the main problems, where it is necessary to take action and who can carry out the action required. On this basis the authorities and specialists will be able to decide on the most suitable ways of solving priority information problems.

To assist the reader in locating these results and the bases on which they were reached, the layout of the present document is given below. It is divided into a main body and one annex. The main body comprises two chapters plus a section on final reflections. The first chapter contains some basic ideas on information for development, the aims and scope of the project, the conception of the inventory as a catalyzing agent, and some comments of a methodological nature to facilitate its use. The second chapter presents the analysis and results of the inventory: an overall view of the situation as

regards socio-economic information in the country: some leading aspects of the organization of information units; and finally the situation of the information services in relation to the different fields of socio-economic development. The main body concludes with an additional section which we have called "Final Reflections" and which identifies the projections of the inventory as an instrument of change and presents ideas on alternative action which could be taken.

Finally, Annex 1 contains statistical tables supporting the analysis presented in Chapter 2.

CHAPTER 1: INFORMATION AND DOCUMENTATION FOR DEVELOPMENT IN
A LATIN AMERICAN COUNTRY: AN INVENTORY

1.1 Information for development: some basic ideas

The process of generating information is growing rapidly in the international field. This body of information, whether it be written, graphic or oral, quantitative (statistical data) or qualitative (ideas, concepts) must nevertheless be controlled and managed in order to be of use in the generation of new information in the innumerable decision-making processes which enable social and economic development activities to be promoted, assessed and modified at all levels.

Many nations, mainly those of the industrial world, have established machinery and institutions capable of handling and channelling this information, thus creating veritable nervous systems within government, business enterprises, universities, professional associations, and the machinery for disseminating information to the public in general. In addition, these developments have generally been accompanied by the formulation of national information policies and the allocation of vast resources to establish specialized institutions and to develop modern systems capable of meeting this challenge. This action has involved to a greater or lesser degree such groups of institutions as statistical services, communication media, libraries, archives, documentation centres, centres for the analysis of information, etc.

The Third World countries, and in particular those of Latin America and the Caribbean, are now becoming aware of the magnitude and seriousness of the problem, although there is still a noticeable lack of co-ordination in their information activities and policies. It is clear that much of the effort will have to concentrate on strengthening the institutions specializing in information, on rationalizing their exchanges, and on gradually establishing such institutions as are lacking. For the planning of these activities, however, there are only limited resources plus a knowledge of the experience of developed countries in this field, which calls for a high degree of inventiveness in adapting it to the social and cultural environment of each developing country.

The most noteworthy feature of the experience gained in the co-ordination of action and the formulation of policies on information - and one of the features most relevant and applicable to Third World countries - is the co-operation among institutions at the national, regional and international levels. Its logic is based on the fact that it has become impossible in recent decades for an institution or even a nation to assemble and process the mass of world information in any field of knowledge. Hence it is imperative to establish arrangements for the sharing of resources and services and to take an active part in the process of information transfer. A prominent place among these arrangements is occupied by co-operation agreements on the selection, acquisition, processing, storage and dissemination of information, which reach their greatest complexity in the information networks.

Another equally important idea which is worth stressing is that national or international information policies will be only partially effective if they continue to be based on a partial view of information whether it be regarded as information = statistics, information = documentation, or information = social communication. It is a fact that the different agents in the development process - planners, managers or businessmen, academics or the public in general - make use of various combinations of information to acquire knowledge about the facts of development, thus highlighting the need to adopt an integral view in formulating national information policies. This integral view has begun to emerge in the form of institutions for the co-ordination of archives, libraries and documentation centres, in the rise of new techniques applicable in various information fields, and in the incorporation of new types of specialists in the field of information sciences.

Within this wide spectrum of problems relating to information for development, the CEPAL Latin American Centre for Economic and Social Documentation (CLADES) has formulated a strategy and programme of work centered on one of the aspects of information, namely, documentation, although fully aware of the importance and interaction of the other aspects - statistics and social communication.

The main interest of CLADES is in the strengthening and integration at the national and regional levels of a group of information units which it calls "information and documentation services". An information and documentation service is a specialized institution whose task is to select, compile, process, control

and disseminate documents or information about the content and location of documents (bibliographical information) dealing with the social and economic aspects of development.

This broad concept of an information and documentation service includes libraries, documentation centres, centres for information analysis, institutional archives (press clippings, correspondence, contacts), etc., but excludes units responsible for information transfer, such as statistical data banks and data bases and press services. These latter units are nevertheless supported by information and documentation components, thus showing that information and documentation services as defined above not only constitute one of the basic supports of "information for development" by directly serving an important proportion of the needs of the users, but also co-ordinate and facilitate the operation of the other types of information units.

The integration of information and documentation services thus defined can be achieved through the exchange and rationalization of the resources and services of these units as required.

Finally, CLADES considers it important to strengthen those units which are of vital importance for the creation of an information network. It is evident that this and the above mentioned tasks must be approached by way of a combined and articulated set of information measures and policies.

1.2 Aims and scope of the project

For the organized promotion of the strengthening and integration of information and documentation services for development it is necessary to have a previous knowledge of the existence, location, capacity and functioning of these services. This knowledge can be obtained through an inventory or census, for which survey techniques are usually appropriate.

The present study, being part of a regional project, involved a survey of 24 countries all over Latin America and the Caribbean. In each country, especially those of large and medium size, information and documentation services are located in different cities, many of them very far apart. Moreover, the number of institutions involved in development is considerable, even in the relatively small countries. Normally each of them has one or more information and documentation services with some degree of organization.

For these reasons it was necessary to limit the scope of the inventory to a manageable size for the small CLADES research team and its national counterparts. Consequently, before embarking on the project "Inventory of Information Units in the Economic and Social Field", it was necessary to adopt working definitions for the terms "information units" and "economic and social field".

a. Information unit: This term is a more restrictive definition of "information and documentation service" which (i) includes only those libraries and documentation centres which have organized collections and sufficient staff to offer an information and documentation service, (ii) excludes institutional archives, (iii) excludes the information and documentation component of the statistical data banks, and (iv) excludes school and private libraries. Normally public libraries were also excluded, with the exception of national libraries or those which serve as such.

b. Economic and social field: This refers to the subject content of the collections of the information units, which is taken to (i) include socio-economic disciplines such as economy, sociology, law; (ii) include inter-disciplinary development areas such as public health, the environment, and planning; (iii) exclude information units with collections specializing in exact and natural sciences (astronomy, mathematics) and general humane sciences (theology, philosophy), but (iv) include units specializing in technology (agronomy, engineering, medicine) whose collections generally contain information on socio-economic disciplines and inter-disciplinary areas of development.

These limitations on the terms "information unit" and "economic and social field" restrict the study to a group of units whose role, although fundamental to the processes of decision-taking for development, is limited in that it does not cover all the needs of those processes. This group, although probably on the periphery of the information requirements of executives, researchers, and their advisers and assistants, nevertheless provides a starting point for future studies designed to cover the information units more directly linked with decision-making.

A final element regarding the scope of the inventory is the period when the survey of resources and services was carried out. The collection of data took place in 1976 and covers basically information applying to 1975.

1.3 The inventory as an instrument of change

Right from the start of the formulation of this project it was CLADES' intention to regard the inventory as a catalyzing instrument and promoter of change. This meant identifying and assessing different ways of organizing the project, in terms of their impact on each country. Consequently, an approach was adopted from the very start which went beyond the mere description and interpretation of the facts and was aimed at suggesting concrete action and policies in the field of information and documentation.

For this purpose, two fundamental aspects affecting the impact of the project were taken into account: (a) the conception of the end-products of the inventory (reports, directories) which would help to promote change, and (b) the procedure through which these products would be obtained.

As regards the question of procedures the potential impact of the project in its different phases was taken into account, and a model was chosen which aimed to maximize the involvement of the national institutions and specialists, not only in the discussion of the results and the formulation of action and policies on information and documentation, but also in the definition of the project and the collection of information.

In order to involve local institutions in the initial phases of the project, a plan of shared responsibility was followed which had been proposed in a background document previously submitted to the countries.^{1/} There it was emphasized that the local collaboration should go far beyond mere administrative help and should on the contrary involve substantive and conceptual contributions from local professionals.

In the case of the planning of the end-products, too, the degree of national participation was taken into account, so that the institutions and persons involved in the problems and discussions would feel genuinely committed and involved. A strategy for the communication of the results of the inventory which made such participation possible was therefore evolved.^{2/}

^{1/} CLADES: National Inventory of Socio-Economic Information Units - Possible scheme of distribution of responsibilities among the national sponsor institutions and CLADES. CLADES/PROY.REG/HIN/2.

^{2/} CLADES: The Inventory as an Instrument of Change: The Case of Development Information and Documentation Infrastructures in Latin America, CLADES/PROY.REG./MET./1, Santiago, Chile, October 1977.

This aspect, which we consider of vital importance, was approached in the light of two fundamental objectives: (i) to devise a diagnostic scheme which was basic and simple in terms of the quantity and quality of the constituent elements and (ii) to assemble these elements into sets of related material which, as well as being relevant to the diagnosis, would also be of interest to the development institutions concerned and would contribute to the possibility of promoting a change for a better situation.

In the light of these objectives, three "levels" of the information services to be subjected to diagnosis were conceived.

One level would be of an overall descriptive nature, that is, it would cover all the information units in the inventory. At this level, replies would be given to basic questions such as: "Where are the units geographically located?" "To what type of development institution do they belong?" "When were they established?". The reasons underlying the replies must be sought in very wide-ranging and varied factors deriving from the history of the economic and institutional development of the country. For the same reason, any change in their present situation is unlikely in the short and medium term, as it would require the formulation, implementation and co-ordination of sets of policies at the highest level.

Thus, for example, a change in the geographical location of the units requires sets of measures of a legal and economic type (affecting investment, income distribution, employment) which are proper to a regionalization plan. However, this type of diagnosis is essential as a frame of reference for the problem of information for development and as such will be of general interest.

A second level relates to the description of some aspects of the organization of information and documentation services. Here, replies are sought to the following questions: What is the size of the units? What is the speciality of their collections? What exchanges of information do the units carry out with other branches of the parent institution? What is the volume of the services provided? These aspects are mainly concerned with the potential and efficiency of the services, and would consequently give rise to a type of analysis which would be of interest mainly to directors of these services and the specialists who work in them. This angle of approach will also be of interest to institutions with national or sectorial coverage which are responsible for the co-ordination and promotion of co-operative activities in the information and documentation field.

Moreover, the possibilities of changing these basic aspects of the organization of the services could be more immediate, since it appears feasible to take medium-term action to improve the collections and services. Much of this work, however, will probably require co-operative effort among institutions of different nature, and certain difficulties may therefore be expected in harmonizing policies and procedures. Nevertheless, it is thought that this type of analysis is essential as a frame of reference for the preparation of horizontal strengthening policies, i.e., those which affect the totality of the information and documentation services in a country.

Finally, a third level of approach has been identified which is more complex in concept, more varied in description and more useful in action. It analyses the information service situation, by homogeneous groups sharing similar information needs, from four points of view: (i) fields of development (government, education and culture), (ii) sectors with different legal status (public sector, private sector), (iii) development agents (planners, researchers), and (iv) specialists in development problems (education, the environment).

For each of these points of view a diagnosis of the situation of corresponding information units will be made on the basis of questions such as: What services are at present available? In what fields do the collections specialize? What is the potential of the units in terms of staffing and the size of their collections? What access will the users have, through these units, to publications available in other branches of the parent institution?

This type of diagnosis, we believe, will be of great interest to development agents and institutions, since through it they will be able to place their information needs within a framework of units exceeding the capacity of the service they normally use. Moreover, the diagnosis will enable those responsible for the units to see their role in a wider context extending beyond the specific information needs of the institution they serve. Finally, the possibilities of introducing changes are greater on this level, since it directly involves the authorities of development institutions and requires their participation in the planning and implementation of policies.

On the basis of these three levels of diagnosis, the main results of the inventory are set out in the following chapter.

CHAPTER 2: INFORMATION AND DOCUMENTATION FOR DEVELOPMENT IN
A LATIN AMERICAN COUNTRY: ANALYSIS AND RESULTS

2.1 Information and documentation units: an overall view

Following the plan outlined in Chapter 1 (page 6), this section contains a descriptive analysis of all the information units in the inventory. This diagnosis is provided as a basic frame of reference for the problem "information for development" and is intended for the guidance of authorities and specialists of development institutions, information specialists, etc.

2.1.1 Development institutions and information

The institutions will be classified from two points of view: (i) their functional nature; and (ii) their legal nature.

In this section, for the sake of simplification, the term "institution" will be used to mean "the body which has the information unit under its administrative control."

The functional nature of the institutions in the development field signifies the type of contribution they make to the various facets and instances of the process of economic and social change. There is no need to emphasize the importance of this, since it constitutes the raison d'être of the information units.

This aspect serves to classify the analysis according to the different fields of development. These fields have been grouped into five basic categories: Government, Education and Culture, Research, Production, and Services.

- i) "Government" comprises those institutions whose role is to regulate, orient and conduct the development process from a national viewpoint - ministries, centralized government bodies, municipalities, etc. - and it therefore includes all the administrative apparatus of the central government and the legislative and judicial powers.

- ii) "Education and Culture" includes those institutions responsible for disseminating knowledge of all kinds, whether through the training of human resources at different levels - universities, training institutes - or through the preservation of the cultural heritage, as in the case of the national library, national archives, museums, etc.
- iii) "Research" comprises those institutions responsible for producing new theoretical or applied knowledge - academic institutes, applied research centres, etc. - connected with development problems.
- iv) "Production" refers to those profit or non-profit-making institutions - agricultural, industrial or mining enterprises, etc. - which are engaged in the actual production of material goods: inputs, consumer articles, capital goods, etc.
- v) "Services" covers those profit or non-profit-making institutions - industrial associations, financial institutions, advisory bodies, transport and marketing enterprises, etc. - whose function is to provide all the supporting elements for the operations mentioned above, such as information, technical assistance, financial backing, etc.

Here a reference should be made to the definition of "functional nature" which was given in the questionnaires and which was wider than the present definition because of the difficulty of defining in advance the most representative functions of such bodies as development institutions, which are usually multi-functional. In order to simplify the classification, the categories have been broken down and organized so as to cover only the main function of the institution, excluding other functions and therefore other categories.

When the inventory of information units in our hypothetical country is analyzed, it displays a concentration of units in the fields of "government", "education and culture", and "services". Only 4 of the 31 units inventoried (13 per cent) belong to research and production, thus perhaps indicating that, if the sample is representative, these sections are insufficiently supplied with information units (Table 1)*. This does not mean that these sectors do not

* The tables mentioned in the text are given in Annex 1.

possess the necessary information for carrying out their work, but it does mean that the relevant documents are dispersed among the substantive units of the institutions, thus creating problems of lack of control of the documents, duplication in the different units, and ignorance of their existence in other parts of the institution.

The legal nature, for its part, denotes the characteristic which enables the institutions to be classified according to their legal status, i.e., according to the type of legislation which governs them. Thus we can distinguish the following categories: "public sector", "private sector", "international agencies sector", and "mixed sector" (semi-public, bi-national, etc.).

In collecting information on the legal nature of the institutions in the questionnaires, the different categories were regarded as mutually exclusive. However, there were cases where it was difficult to classify the replies, the problem generally arising when the unit was created with the joint financial backing of institutions of different types. In this situation the unit was assigned to the category of the legal sector which provides the greater part of its financial support.

In the country under consideration, a large proportion (77 per cent) of the institutions with information units will be found in the "public sector". As there were very few cases in the remaining categories, these have been combined in one category entitled "other sectors" (Table 2).

It is interesting to analyze the characteristics of the institutions which have information units when their functional and legal nature are taken together. Thus, a very high proportion (71 per cent) of the units belonging to the "public sector" is concentrated in the fields of "government" and "education and culture", whereas the institutions belonging to "other sectors" are generally found (again in the proportion of 71 per cent) in the "services" area (Table 3). It is noteworthy that in "other sectors" there are no institutions having information units which deal with "research", and there is only one dealing with "education and culture".

2.1.2 Evolution of the information units

This aspect was studied by analyzing the age of the information units. Age is a factor potentially indicative of the experience and achievements of the

unit in the provision of information services. For an overall analysis its importance is considerable, since it makes it possible to identify information and documentation policies implicit in the institutional development of the country.

For the purpose of analysis, the age has been calculated from the date when the information unit was established, i.e., the date on which it was first legally constituted or on which it actually began to operate. In the case of units which have subsequently been reconstituted or which have been transferred to the administration of another institution, their date of origin has been regarded as the earliest date of their establishment. This criterion may result in a slight over-estimation of the age of some units.

In the present analysis a classification consisting of three mutually exclusive categories has been employed for all countries, namely: i) before 1960, ii) the 1960s (1961-1970), and iii) the 1970s (1971 onwards).

The results of the inventory show that information units are relatively recent, since only 30 per cent of them were set up before 1961. On the other hand, there is a noticeable increase in the rate of establishment of information units in the present decade. Thus, while in the 1960s approximately one information unit per year was established, this rate increased to 2.4 units per year in the 1970s (Table 4).

Furthermore, the pattern of establishment of information units in the different types of development institutions reveals some very interesting contrasts.

As regards fields of activity, the "education and culture" sector has the proportionally oldest units - about 60 per cent were established before 1961 - whereas those in the "government" sector are of recent appearance, since the majority (70 per cent) did not begin their operations before 1970.

Moreover, the different areas of activity display differences in the rate of creation of information units: growth in the "education and culture" sector has been maintained during the last decade, while that in the "services" sector has decreased. On the other hand, growth in the "government" sector shows a remarkable increase: whereas in the previous decade only one unit was created, seven have been set up so far in the present decade (Table 5). Consequently it is the "government" sector which has lately shown greatest dynamism in strengthening its institutions with information units.

From the point of view of their legal nature, a very considerable increase in "other sectors" was apparent in the 1960s, with an average growth rate of one unit every two years. This rate is double that of the present decade and contrasts with the dynamic growth rate in the "public sector", which has attained a rate of over two information units per year in this decade, although it should be noted that in the 1960s "other sectors" showed a dynamism equal or superior to that displayed by the "public sector". (Table 6).

2.2 Information and documentation units: organizational aspects

This section deals with a second level of analysis (chapter 1, page 6), also descriptive in nature and referring to information units as a whole. This diagnosis considers technical characteristics of the organization and functioning of the units, and as such may be of particular interest to the directors of these services and the specialists who work there. This angle of approach may also be useful to those institutions responsible for the co-ordination and promotion of activities in the information field.

2.2.1 The size of information units

The size of information units is assessed through the size of their staff and the size of the collection of books, non-conventional documents and periodicals.

The size of staff is a fundamental aspect, since it indicates the potential capacity for providing information and documentation services. Moreover, according to the modern conception of information, staff resources have come to be more important than the collection in terms of the effectiveness of the information services.

In this analysis, the size of the organization has been measured by the number of staff working in the unit, irrespective of their level of qualification. As an indicator a simple mutually exclusive classification was used composed of the following categories: i) units consisting of only one person, ii) units of two to four persons and iii) units of five or more persons.

In this connection, three out of every four information units in the country under consideration tend to be of "medium" and "small" size, that is, with a staff of four or less. Among these the usual size is the "medium" (2-4 persons), which accounts for about 50 per cent of all units (Table 7).

The size of the collection, for its part, is important because it may be indicative of the units potential for the supply of information, on the assumption that larger collections will normally lead to a more complete and relevant supply of information on any particular theme. The size of the collection is also of interest because of its relation to other organizational aspects of the unit, such as the size of staff, since it makes it possible to identify certain tendencies in the organization of these services in the country.

The size of the collection is measured quantitatively, as it does not reflect the quality of the information contained therein. The collections have been classified under two headings: i) books and non-conventional documents and ii) periodicals. The term "non-conventional documents" denotes those which are of restricted issue and difficult to obtain, as they are normally not channelled through the publishing industry, e.g., pamphlets, theses, conference papers, etc .

The definition of ranges for each type of collection is difficult to establish with accuracy, since it depends on the average size and the size distribution of the collections existing in each country.

In the case which concerns us the following ranges will be used to represent large, medium-sized and small collections of books and non-conventional documents: i) over 10,000 items, ii) between 2,000 and 10,000 items, and iii) less than 2,000 volume items. In this respect the results are similar to those concerning size of staff, in that small and medium-sized collections are most numerous, with the latter slightly predominating (Table 8).

Collections of periodicals, for their part, are classified as large, medium-sized and small in the present context according to whether they contain over 200 titles, between 70 and 200 titles, and less than 70 titles, respectively. Here, in contrast with the previous findings, the results of the inventory do not show a clear predominance of any of the given categories (Table 9).

2.2.2 The specialization of the collection

The specialization of the collection may be considered as indicating its capacity to provide information relevant to the various problems of development.

Specialization according to subject was established with the aid of a list of socio-economic subjects, by means of which the units were asked to assess the subject coverage of their documents and estimate the extent to which each subject was represented in their collection. The list included development sciences or disciplines - economics, sociology, law, etc. - and inter-disciplinary development areas, such as public health, transport, the environment, etc. It should be stressed that all the units were classified from the point of view of these socio-economic subjects, irrespective of whether other extraneous subjects predominated in the unit. Consequently, those units of a scientific and technical nature, e.g., institutes for medical or engineering research, were classified solely in relation to the size of their collections in socio-economic subjects such as planning, economics, business enterprises, etc.

On this basis the information units were very broadly classified in accordance with their specialization, the indicator used being the distribution of subjects in the collection of books and non-conventional documents.

- i) Specialized: those whose collections in development disciplines or in development areas exceed 60 per cent of the whole.
- ii) Non-specialized: those whose collections are equally distributed among various development disciplines and/or areas.

On the basis of this classification, the inventory of the country in question suggests that a little over half the units (55 per cent) tend to be specialized, with collections on development areas predominating among these (Table 10).

It is interesting to note that the establishment of information units with differing degrees of specialization would seem to have occurred in response to the institutional changes which have taken place during the development process. This is noticeable in the gradual change in the predominating fields of specialization of the units. Thus, whereas the majority of the units specializing in disciplines (83 per cent) and the non-specialized units (78 per cent) were

established before 1970, practically all (80 per cent) of the units specializing in development areas were set up in the present decade (Table 11).

The analysis of the size of staff in units of differing specialities only reveals that the units specializing in development areas tend to be "small", since none of them have more than four staff members. The fact that about 40 per cent of the non-specialized units have only one staff member, however, is unexpected for this type of unit (Table 12). Finally, the inventory shows a contrast between the size of the collections of books and non-conventional documents and that of periodicals for the different specialized categories of information units.

With regard to books and non-conventional documents, the following tendencies are observed: (i) 60 per cent of the units specializing in disciplines have "large" collections; (ii) a similar percentage of those specializing in development areas have "small" collections; (iii) 50 per cent of the non-specialized units have "medium-sized" collections. On the other hand, it is surprising to find that more than 35 per cent of the non-specialized units have collections of less than 2,000 volumes, since in Latin America these units generally belong to central university libraries with "large" collections (Table 13).

With regard to periodicals, whereas the specialized units differ slightly from the tendencies mentioned in the previous statement, the non-specialized units reveal a completely different situation. Thus, study of the data reveals that: (i) the units "specializing in development areas" have "medium-sized" and "small" collections (80 per cent); (ii) the units "specializing in disciplines" possess on the whole large and medium-sized collections (about 70 per cent); (iii) 50 per cent of the non-specialized units have collections of over 200 titles (Table 14).

The predominant features of each category of specialization are summarized in the table given below, a study of which leads to the following conclusions:

- i) The great majority of information units "specializing in development areas" are of recent establishment, with "small" collections of books and non-conventional documents, and "small" and "medium-sized" collections of periodicals;

SUMMARY TABLE N° 1

FEATURES OF THE INFORMATION UNITS,
CLASSIFIED ACCORDING TO THE DEGREE OF
SPECIALIZATION OF THEIR COLLECTIONS

	Date of establishment	Size of staff	Size of their collections of books and non-conventional documents	Size of their collections of periodicals
Specializing in development areas	Recent (1971 onwards) (80%)	Small and medium-sized (less than 5 staff members) (100%)	Small (up to 2,000 volumes) (80%)	Small and medium-sized (up to 200 titles) (80%)
Specializing in disciplines	Early (before 1971) (83%)	*	Medium-sized and large (over 2,000 volumes) (100%)	*
Non-specialized	Early (before 1971) (79%)	*	Small and Medium-sized (up to 10,000 volumes) (86%)	Large (over 200 titles) (50%)

* Indicates that the figures do not show a predominant pattern as regards this aspect.

- ii) The information units "specializing in disciplines" are almost all earlier than 1971 and have "large" and "medium-sized" collections of books and non-conventional documents;
- iii) The "non-specialized units" were mostly set up before 1971 and possess "small" and "medium-sized" collections of books and non-conventional documents and large collections of periodicals.

In short, there emerge two distinct patterns applicable to units of different specialities: (i) that of the units "specializing in disciplines" and the "non-specialized" units, most of which were set up before 1971 and have larger collections, and (ii) that of the units "specializing in development areas" which comprise the more recent and smaller units.

2.2.3 Integration into the information system of the institution

The development institutions within which the information units are located normally process a great variety of information. This is assembled, selected, processed, stored and disseminated in different departments of the same organization, such as the institution's archives, the statistical office, the publications office, the library, the documentation centre, etc. The sum total of these units constitutes what has here been called the "institutional information system". This system will be regarded as more or less "integrated" if communication to a greater or lesser degree is maintained between the different components of the system. It will be regarded as "not integrated" if there is little or no communication, with resulting duplication and overlapping in the information services which these units provide.

This aspect has been included in the diagnosis because it makes it possible to study, for example, its relation to the fields of development served by the units. Thus it is considered that the units serving the Government field should be more integrated in order to provide a range of information going beyond the merely bibliographic which is provided by libraries and documentation centres.

The degree of integration was measured through the links between the information unit, whether this be a library or a documentation centre, and other units existing in other branches of the institution, with special emphasis on the information unit's control of or access to the documents produced by the organizatio

The degree of integration was then classified into three mutually exclusive categories: "full", "limited" or "non-existent", according to the degree of linkage with the internal files of the organization, irrespective of the formal or informal nature of this linkage.

With regard to this problem, this inventory suggests that the information units show little or no integration into the institutional information system, since two out of every three units show "limited" or "non-existent" integration (Table 15).

It is interesting, moreover, to note the influence of the year of establishment of the unit on its degree of integration into the institutional information system. In the first place, a clear tendency towards full integration is noticeable in the recently established units. Thus, while 7 out of 11 (63 per cent) recent units are fully integrated, this applies to only 12 per cent of those established before 1971. This might imply that it is not a process of maturity with the passage of time which tends to lead to the setting up of institutional information systems, but rather the influence of other factors present in the new units (Table 16).

An equally interesting pattern is seen in the relationship between the size of the information unit, as measured by the size of its staff, and its degree of integration into the institutional information system. On the one hand, this shows that units with only one staff member are on the whole "non-integrated" or have only "limited integration", while the other suggests that units with relatively large staffs (five staff members or more) also tend to show little integration. Thus, only one in 8 units and one in 7, respectively, show full integration into the institutional information system. In this hypothetical context there would seem to be an optimum size - between 2 and 4 staff members - favouring a greater degree of integration. This can be seen from the fact that more than half the units of this size - 7 out of 13 - reveal a full degree of integration (Table 17).

Finally, there is quite a clear relationship between the degree of specialization of the collections and the degree of integration into the institutional systems. The units with a full degree of integration tend to be specialized units, whereas those where integration is limited or non-existent tend to be non-specialized. Thus, 3 out of every 4 units with a "full degree of integration" are "specialized", whereas more than half of the units with little or no integration are "non-specialized" (Table 18).

Lastly, it is noticeable that the units "specializing in development areas" are concentrated equally at the two extremes of integration, i.e., "fully integrated" or "not integrated".

2.3 Development institutions and information and documentation units

Following the plan proposed in chapter 1 (page 7), we give below the third level of analysis, which refers to the situation of the information services in a Latin American country from the point of view of the information needs of two homogeneous groups, namely: (i) the group classified by fields of development activity (Government, Education and Culture, Research, Production, Services), and (ii) the grouping by legal sectors of the development institutions (Public Sector, Other Sectors).

2.3.1 Information and documentation for fields of development activity

With regard to size of staff, it is observed that the information units dealing with "education and culture" tend to have a "large" staff, while those dealing with "government" and with "services" tend to have a "medium-sized" or "small" staff. Thus, 75 per cent of the units in the "education and culture" field have 5 or more staff members, while 90 per cent of the "government" units and all the "services" units have fewer than 5 staff members.

The "production" and "research" fields of activity have been excluded from this analysis as they have only two information units each, thus precluding a valid statistical analysis.

It is significant that the highest percentages of units with only one staff member are "government" and "services", both of which register a proportion equal to or higher than 40 per cent, which seems too high in view of the fact that units with only one staff member are normally very limited in the services they can offer (Table 19).

A similar pattern is observed in the size of the collections of books and non-conventional documents. Thus, in "education and culture" all the units have "large" and "medium-sized" collections, whereas in "government" and "services", "small" and "medium-sized" collections predominate, accounting for 90 per cent and 78 per cent respectively (Table 20).

The position is different in the case of periodicals, where "government" is the only one which maintains a similar pattern to the above, with a preponderance of "medium-sized" and "small" collections (80 per cent). On the other hand, a very interesting feature of "education and culture" is the polarization of the units into either "large" or "small" collections. This would suggest the presence within this field of two types of units, in which periodicals fulfil a different role. In "services" also there is an unexpected change, since units with "small" and "medium-sized" collections of books and non-conventional documents possess "medium-sized" and "large" collections of periodicals (Table 21).

Analysis of the degree of specialization of the information units corresponding to different fields of development activity produced very clear results. The information units in the "government" field are mainly (60 per cent) "specialized in development areas", whereas in "education and culture" and "services" the "non-specialized units" clearly predominate, accounting for approximately 70 per cent in both cases.

This pattern was fully expected in "government" and "education and culture", but the predominance of "non-specialized units" in the "services" field was something of a surprise (Table 22).

A final interesting aspect of the information units serving the different fields of development activity is the volume of information and documentation services which they offer. This aspect makes it possible to gauge the amount of information support supplied by the units to the development institutions and agents and hence to compare the present supply of services with that which will be required for the planning of economic and social development.

In this inventory the volume of services has been measured from two points of view: that of "circulation", in the form of home loans or consultation in the reading rooms, and that of "reference services".^{1/} The size ranges for these services depend, as in the case of the collections, on the average size and its corresponding distribution in each country. In the present case, circulation is described as "high", "medium" or "low" according to the number of books made available weekly: i.e., over 250, between 101 and 250, and 100 or less, respectively.

^{1/} In the questionnaire used in the inventory, "reference services" included both the replies to short questions put by the users in the reading room and those requiring an exhaustive search for and selection of information.

The volume of reference services for its part, is classified as "high", "medium" or "low" according to the number of enquiries dealt with weekly, i.e., over 200, between 51 and 200, or 50 or less, respectively.

In overall terms, the information units of the country in question reveal a polarization of levels of circulation. Thus, a considerable proportion of units (35.5 per cent) provide a weekly service of over 250 volumes, which at the same time 45.2 per cent provide a service of 100 volumes or less per week (Table 23).

On the other hand, the volume of reference services is distributed equally among the different categories, with a slight predominance (39.3 per cent) of the "high" volume category (Table 24).

Analysis of the weekly volume of circulation in relation to fields of development discloses that the units serving "government" and "services" provide a low volume of circulation (50 per cent), whereas the units serving "education and culture" provide a high volume of circulation (87.5 per cent) (Table 25).

The monthly volume of reference enquiries, however, when compared with the circulation services, reveals a similar performance in both "government" and "education and culture", but the position is very different in "services", where the volume of reference enquiries is relatively high (Table 26).

The following Summary Table gives the most relevant characteristics of the information units, grouped according to the different fields of development activities.

The table shows that:

- i) The "government" units tend to be "medium-sized" or "small" in terms of personnel, with "small" or "medium-sized" collections of books and non-conventional documents and also of periodicals; they are generally "specialized in development areas" and "low" in volume of information services.
- ii) The "education and culture" units tend to have "large" staffs and "large" collections; they are generally "non-specialized" and have a "high" volume of information services.
- iii) The "services" units tend to have "medium-sized" or "small" staffs; they are basically "non-specialized" and have a "low" volume of circulation.

SUMMARY TABLE N^o 2

FEATURES OF THE INFORMATION UNITS,
CLASSIFIED ACCORDING TO THE MAIN FIELD
OF DEVELOPMENT ACTIVITY OF THE INSTITUTION

	Size of Staff	Size of collection of books and non-conventional documents	Size of collection of periodicals	Specialty of collection	Weekly volume of circulation	Weekly volume of references
Government	Small and medium-sized (less than 5 staff members) (90%)	Small (up to 2,000 volumes) (50%)	Small and medium-sized (up to 200 titles) (80%)	Specializing in areas of development (60%)	Low (100 volumes or less) (50%)	Low (50 references or less) (50%)
Education and Culture	Large (5 staff members or more) (75%)	Medium-sized and large (over 2,000 volumes) (100%)	Large (over 200 titles) (50%)	Non-specialized (75%)	High (250 volumes or more) (87.5%)	High (more than 200 references) (63%)
Services	Small and medium-sized (less than 5 staff members) (100%)	*	*	Non-specialized (67%)	Low (100 volumes or less) (56%)	*

* Indicates that in this aspect the figures do not show a predominant pattern.

2.3.2 Information and documentation for the legal sectors of development

The different legal sectors were grouped, in our Latin American country, into two institutional categories, "public" sector and "other" sectors. This latter category was formed from a combination of the units in the national private sector, the international organizations sector, and the mixed sector, which taken separate were too few to allow for a percentage analysis.

With regard to the size of staff of the units in the different legal sectors it can be seen that, while the units in the Public Sector have mainly (46 per cent) "medium-sized" staff i.e., between 2 and 4 staff members, the units in Other Sectors have mainly "medium-sized" and "small" staffs (86 per cent).

Moreover, it emerges that the number of units with only one staff member is greater in "Other Sectors" than in the "Public" Sector. From these two facts it would appear that the "Public" Sector has the greater potential in information and documentation services, from the point of view of staff resources (Table 27).

Comparative analysis of the "Public" Sector and the "other" Sector as regards the size of their collections of books and non-conventional documents gives results similar to those concerning size of staff. Generally speaking, there is a greater wealth of these bibliographical resources in the "Public" Sector (Table 28).

The situation is different, however, in the case of periodicals. Here it emerges that the "Public" Sector is not so markedly superior to the "Other" Sectors, whose units tend to have periodical collections of "medium" and "large" size (Table 29).

As regards information services, measured in this specific case by the monthly volume of circulation, no clear difference in pattern emerges between these two sectors, as the volumes of circulation in each case are relatively similar (Table 30).

Summary Table No. 3 depicts the characteristics mentioned in the analysis of the information units according to their legal nature.

This table shows that:

- i) The information units in the "Public" Sector tend to be "medium-sized" or "small" in size of staff and in their collections of books and non-conventional documents.
- ii) The units in the "Others" Sector tend to be "small" and "medium-sized" in staff resources and "small" in their collections of books and non-conventional documents.

Finally, in the light of this analysis and especially in view of its large number of units, it would appear that the "Public" Sector possesses a greater potential for providing information and documentation services than the "Other" Sectors: a fact which gives it a key role in the planning and implementation of national policies on information for development.

SUMMARY TABLE N^o 3

FEATURES OF THE INFORMATION UNITS,
CLASSIFIED ACCORDING TO THE LEGAL
SECTOR OF THE INSTITUTION

	Size of Staff	Size of collection of books and non-conventional documents	Size of collection of periodicals
"Public" Sector	Small and Medium-sized (Less than 5 staff members) (75%)	Small and Medium-sized (up to 10,000 volumes) (79%)	*
"Others" Sector	Small and Medium-sized (Less than 5 staff members) (86%)	Small (up to 2,000 volumes) (57%)	Medium-sized and large (over 70 titles) (80%)

* Indicates that in this aspect the figures do not show a predominant pattern.

SOME FINAL CONSIDERATIONS

This section contains some ideas on the projections of the inventory in the Latin American country which we have analyzed by way of example. It is CLADES' intention that these reflections should serve as a basis for the discussion phase which will begin with the National Diagnostic Seminar and that they should form a frame of reference for the persons and institutions participating in the formulation, direction and implementation of the programmes for the development of the information and documentation services in the country.

First of all, we should like to give the usual warnings about this type of study. We refer to the caution which must be used in considering the conclusions and inferences which figure throughout the text. In effect, mention should be made of three limiting factors, in connection with the validity of some of the aspects of the study, which were obvious from the very outset: (a) the coverage of the project in terms of the type of information units and their sectoral specialization; (b) the representativity of the sample in the context of the coverage adopted, and (c) the number of aspects or characteristics of the information units which were incorporated into the analysis.

In the first place, as explained in Chapter 1, the unit of analysis selected was the information and documentation service, leaving aside the statistical and social communication services. Furthermore, the information and documentation service analyzed did not include the archives or other units of the development institutions which normally handle information relevant to research or decision-taking. Thus the inventory concentrated exclusively on libraries and documentation centres.

Moreover, the socio-economic subject field used for the selection of these libraries and centres excluded books and material of a scientific and generally humanistic nature which might perfectly well have been included if a wider concept of economic and social development had been used. The reasons for the adoption of this restricted approach were mainly practical and administrative, as pointed out in Chapter 1.

A second limitation, less generalized than the first relates to the sectoral representativity of the sample. Here the reservations do not refer to the overall representativity, which appears to be quite reasonable, but to possible

distortions in the sample which might mean that some sectors were not fully represented. The absence of an exhaustive list of units prevents us from assessing the magnitude of the possible distortions.

A final important limitation, though different in nature from the other two, lies in the fact that number of aspects selected - approximately 10 out of 100 - represents only a small proportion of those included in the inventory. The decision to reduce the complexity of the analysis was due to reasons unconnected with the conceptual plan. Thus it was felt, on the one hand, that the simultaneous treatment of all the aspects was not feasible either in a report or at a discussion meeting and it was decided to leave the preparation of a more detailed analysis for future stages of the project. The inclusion of the remaining factors would also have involved a much longer time of preparation of the preliminary report, which would have appreciably delayed the submission of this document to the countries. CLADES is at present studying the possibility of sending the rest of the inventory results in the near future, together with an outline analytical procedure which would enable the local authorities and specialists to participate in the interpretation of the valuable information still pending.

The limitations implicit in the present report, however, do not affect the validity of some of the conclusions which have emerged in this phase of the analysis, nor should they hinder the initiation of action in this field. This need for action is clearly discernible against the background of a number of positive trends in the country which create a favourable situation for introducing the required changes.

Thus, in the face of some of the specific problems which have been identified - prevalence of units with only one staff member, paucity of collections relating to development areas, absence of information and documentation services supporting the Production and Services fields of development, etc., - some very positive factors may be noted. Among these is the existence of a relatively new group of information units which might present less resistance and opposition to change; the accelerated establishment of information units in the Government field of development, which reveals a favourable attitude on the part of the authorities towards solving the problem of information in this sector, and an increased trend

towards specialization in recent years, which reveals a more general awareness of the new demands for information which development entails.

At the same time it should be noted that this action requires the participation not only of information specialists but also of development authorities and specialists since, within the modern concept of information, although nothing can be done without the information specialists, the delegation to them alone of responsibility for the design and selection of information systems might result in the failure of the latter to meet the specific requirements of the development institutions and agents.

How do we envisage this participation of the development agents?

We see it on different levels:

1. In their capacity to define their specific information needs and to contrast them with the information services available in the country.
2. In their capacity to incorporate their specific information needs into the choice and design of systems and the formulation of policies to strengthen and integrate the information units.
3. In their capacity to implement information policies and correlate them with other development policies such as those relating to education, scientific and technological research, agricultural and industrial investment, etc.
4. In their capacity to reconcile international technical and financial assistance with national information policy.
5. In their capacity to negotiate national participation in international networks or systems of information.

To carry out these actions, which can only be implemented by national participants, we envisage three closely-linked operations: (i) to establish priorities among the problems mentioned in accordance with the objectives and historical features of the country itself, (ii) to find and assess alternative solutions for these priority problems, (iii) to work out policies and concrete projects for action and, at the same time (iv) to identify sources of finance and technical assistance, both internal and external, for implementing these decisions. These examples hold good, of course, whatever the approach adopted to surmount these problems: whether it be national, at the level of regions within the country, or sectoral.

Let us suppose, by way of example, that the Public Sector takes an interest in the problem of the large number of units with only one staff member and weighs alternative policies to remedy this situation, since it considers this a factor limiting the efficacy of the information services. In this case the following alternatives might be considered: (i) to increase the staff of the unit, (ii) to divert some of the duties to other administrative branches of the institutions (e.g., participation of development specialists in document analysis), (iii) to provide the existing personnel with techniques for the better administration of their unit, (iv) to modify the rules governing the recruitment and promotion of personnel, etc.

Finally, we should like to conclude this document with some comments on what has already been achieved in this country. Our original aims were to publicize and create awareness of the problem of information for development, to promote widespread participation leading to relevant conclusions in the context of the national situation, and to stimulate and orient concrete action in this field. All this, of course, was planned on the assumption that real and reliable knowledge could be obtained of the situation of the information units for development, with the object, subsequently, of communicating it and placing it at the service of the country.

In the present phase we consider that the project has produced positive results which far outweigh its limitations. To date it is possible to point to important achievements, as well as other aspects which provide a challenge for the future. Among the achievements the following can be mentioned: (i) a greater knowledge of the situation of information and documentation services, (ii) the large-scale participation of information specialists and development agents in the planning of the inventory and the collection of data; and (iii) the presentation of an integrated approach to information problems.

Among the points which might be considered as challenges are the following: (i) securing a change in attitudes and ideas about the information problem in Latin America; (ii) intensification of fruitful dialogues among those connected with this problem; and (iii) above all, action to strengthen the information and documentation services and to equate them to development needs.

Without minimizing the importance of international collaboration in the information field, we nevertheless believe, than an effective response

to these challenges will depend in great measure on the active participation and creative contribution of national elements, consisting of information authorities, users and specialists, who will need to exercise leadership in future stages in order to ensure continuity of the efforts to solve the complex problem of information for development.

STATISTICAL TABLES

TABLE 1

DISTRIBUTION OF INFORMATION UNITS BY FIELD OF
DEVELOPMENT ACTIVITY OF THE INSTITUTION

	Number of Units (%)	
Government	10	(32.2)
Education and Culture	8	(25.8)
Research	2	(6.5)
Production	2	(6.5)
Services	9	(29.0)
TOTAL	31	(100.0)

- The fields of "government", "education and culture" and "services" account for practically all the information units (87 per cent).
- The "research" and "production" fields have only two units each, so they are not taken into account in the analysis.

TABLE 2

DISTRIBUTION OF INFORMATION UNITS BY
LEGAL STATUS OF THE INSTITUTION

	Number of Units (%)	
Public Sector	24	(77.4)
Other Sectors	7	(22.6)
TOTAL	31	(100.0)

- The sample shows that 3 out of every 4 units are in the "public sector", so that for analytical purposes the small percentages for other sectors were lumped together in one category.

TABLE 3

DISTRIBUTION OF INFORMATION UNITS BY LEGAL STATUS
AND FIELD OF DEVELOPMENT ACTIVITY OF THE INSTITUTION

	Public Sector	Other Sectors	Total
Government	10 (41.6)	0 (0.0)	10 (32.2)
Education and culture	7 (29.2)	1 (14.3)	8 (25.8)
Research	2 (8.3)	0 (0.0)	2 (6.5)
Production	1 (4.2)	1 (14.3)	2 (6.5)
Services	4 (16.7)	5 (71.4)	9 (29.0)
TOTAL	24 (100.0)	7 (100.0)	31 (100.0)

- Of the total number of the "public sector" units, 70.9 per cent of the institutions to which they belong are engaged in the fields of "government" and "education and culture" (41.6 per cent and 29.2 per cent, respectively).
- Those in other sectors, on the other hand, belong for the most part to institutions engaged in "services" (71.4 per cent).

TABLE 4

DISTRIBUTION OF INFORMATION UNITS BY AGE

	Number of Units (%)	
Before 1961	9	(30.0)
Between 1961 and 1970	9	(30.0)
Since 1970	12	(40.0)
TOTAL	30	(100.0)

- The information units in the socio-economic field have been established fairly recently; only 30 per cent were set up before 1961.
- The establishment of units has been stepped up in the past decade; 40 per cent have been set up since 1970.

TABLE 5

DISTRIBUTION OF INFORMATION UNITS BY FIELD OF
DEVELOPMENT ACTIVITY OF THE INSTITUTION AND AGE

	Government	Education and culture	Research	Production	Services	Total
Before 1961	2 (20.0)	4 (57.1)	2 (100.0)	0 (0.0)	1 (11.1)	9 (30.0)
Between 1961 and 1970	1 (10.0)	2 (28.6)	0 (0.0)	0 (0.0)	6 (66.7)	9 (30.0)
Since 1970	7 (70.0)	1 (14.3)	0 (0.0)	2 (100.0)	2 (22.2)	12 (40.0)
TOTAL	10 (100.0)	7 (100.0)	2 (100.0)	2 (100.0)	9 (100.0)	30 (100.0)

- The units in the field of "education and culture" are proportionally the oldest (57.1 per cent were established before 1961).
- The majority of those belonging to "services" institutions were set up during the decade 1961-1970 (66.7 per cent).
- The "government" units were established more recently (70 per cent since 1970).

TABLE 6

DISTRIBUTION OF INFORMATION UNITS BY LEGAL
STATUS OF INSTITUTION AND AGE

	Public Sector	Other Sectors	Total
Before 1961	8 (34.8)	1 (14.3)	9 (30.0)
Between 1961 and 1970	4 (17.4)	5 (71.4)	9 (30.0)
Since 1970	11 (47.8)	1 (14.3)	12 (40.0)
TOTAL	23 (100.0)	7 (100.0)	30 (100.0)

- The decade 1961-1970 is the period when most units were established in "other sectors" (71.4 per cent).
- 65.2 per cent of the "public sector" information units were set up either after 1961 and specially since 1970 (47.8 per cent).

TABLE 7

DISTRIBUTION OF INFORMATION UNITS BY SIZE OF STAFF

	Number of Units (%)	
Large (5 or more staff members)	7	(22.6)
Medium (2 to 4 staff members)	14	(45.2)
Small (1 staff member only)	10	(32.2)
TOTAL	31	(100.0)

- Only about 1 out of every 4 information units has 5 or more staff members.
- The predominant size of staff is between 2 and 4 staff members.

TABLE 8

DISTRIBUTION OF INFORMATION UNITS BY SIZE
COLLECTION OF NON-CONVENTIONAL BOOKS AND DOCUMENTS

	Number of Units	(%)
Large Collections (10,001 or more)	7	(22.6)
Medium-sized Collections (2,001 - 10,000)	13	(41.9)
Small Collections (2,000 or less)	11	(35.5)
TOTAL	31	(100.0)

- Only 22.6 per cent of the units have collections of less than 10,000 volumes.
- Most of the collections are medium-sized (4 out of every 10 units have collections ranging from 2,001 to 10,000 volumes).

TABLE 9

DISTRIBUTION OF INFORMATION UNITS BY SIZE OF
COLLECTION OF PERIODICALS

	Number of Units	(%)
Large Collections (Over 200 titles)	12	(38.7)
Medium-sized collections (71 - 200 titles)	9	(29.0)
Small Collections (1 - 70 titles)	10	(32.3)
TOTAL	31	(100.0)

- The collections of periodicals are evenly distributed among the different sizes.
- The "large" collections predominate slightly.

TABLE 10

DISTRIBUTION OF INFORMATION UNITS BY TYPE OF
SPECIALIZATION

	Number of Units (%)	
Specializing in areas of development	10	(32.2)
Specializing in disciplines	7	(22.6)
Diversified	14	(45.2)
TOTAL	31	(100.0)

- Of the total number of units included in the survey, 14 (45.2%) have "diversified" collections in the socio-economic field.
- Of every 10 specialized information units, 6 specialize in "areas of development" and the remaining 4 in "disciplines".

TABLE 11

DISTRIBUTION OF INFORMATION UNITS BY TYPE OF
SPECIALIZATION AND AGE

	Specializing in areas of development	Specializing in disciplines	Divers- ified	Total
Before 1961	2 (20.0)	2 (33.3)	5 (35.7)	9 (30.0)
Between 1961 and 1970	0 (0.0)	3 (50.0)	6 (42.9)	9 (30.0)
Since 1970	8 (80.0)	1 (16.7)	3 (21.4)	12 (40.0)
TOTAL	10 (100.0)	6 (100.0)	14 (100.0)	30(100.0)

- Most of the units "specializing in areas of development" (80 per cent) have been set up since 1971.
- In contrast, the great majority of those "specializing in disciplines" (83.3 per cent) and of the "diversified" units (78.6 per cent) were set up before 1970.

TABLE 12

DISTRIBUTION OF INFORMATION UNITS BY TYPE OF
SPECIALIZATION AND SIZE OF STAFF

	Specializing in areas of development	Specializing in disciplines	Diversified	Total
Large (5 or more staff members)	0 (0.0)	3 (42.8)	4 (28.6)	7 (22.6)
Medium (2 to 4 staff members)	7 (70.0)	2 (28.6)	5 (35.7)	14 (45.2)
Small (1 staff member only)	3 (30.0)	2 (28.6)	5 (35.7)	10 (32.2)
TOTAL	10(100.0)	7(100.0)	14(100.0)	31(100.0)

- The units specializing in areas of development are relatively "small" (none has more than 4 staff members).
- As regards the other two types, the distribution by size of staff is fairly even.

TABLE 13

DISTRIBUTION OF INFORMATION UNITS BY TYPE OF SPECIALIZATION AND SIZE OF COLLECTION OF NON-CONVENTIONAL BOOKS AND DOCUMENTS

	Specializing in areas of development	Specializing in disciplines	Diversified	Total
Large Collections (over 10,000)	1 (10.0)	4 (57.1)	2 (14.3)	7 (22.6)
Medium-sized Collections (2,001 - 10,000)	3 (30.0)	3 (42.9)	7 (50.0)	13 (41.9)
Small Collections (2,000 or less)	6 (60.0)	0 (0.0)	5 (35.7)	11 (35.5)
TOTAL	10(100.0)	7(100.0)	14(100.0)	31(100.0)

- The total number of units "specializing in disciplines" have "large" or "medium-sized" collections.
- Half of the "diversified" units have "medium-sized" collections.
- 6 out of every 10 units "specializing in areas of development" have "small" collections.

TABLE 14

DISTRIBUTION OF INFORMATION UNITS BY TYPE OF
SPECIALIZATION AND SIZE OF COLLECTION OF PERIODICALS

	Specializing in areas of development	Specializing in disciplines	Diversified	Total
Large Collections (over 200 titles)	2 (20.0)	3 (42.8)	7 (50.0)	12 (38.7)
Medium-sized Collections (71 - 200 titles)	4 (40.0)	2 (28.6)	3 (21.4)	9 (29.0)
Small Collections (1 - 70 titles)	4 (40.0)	2 (28.6)	4 (28.6)	10 (32.3)
TOTAL	10 (100.0)	7 (100.0)	14 (100.0)	31 (100.0)

- Most of the units "specializing in areas of development" (80 per cent) have "medium-sized" and "small" collections of periodicals.
- The "diversified" information units and units "specializing in disciplines", on the other hand, usually have "large" collections (50 per cent and 42.9 per cent, respectively).

TABLE 15

DISTRIBUTION OF INFORMATION UNITS BY THEIR DEGREE OF
INTEGRATION IN INSTITUTIONAL INFORMATION SYSTEMS

	Number of Units	(%)
Full integration	9	(32.1)
Limited integration	9	(32.1)
No integration	10	(35.8)
TOTAL	28	(100.0)

- 64.2 per cent of the socio-economic information units are in some degree integrated in institutional information systems.

TABLE 16

DISTRIBUTION OF INFORMATION UNITS BY DEGREE
OF INSTITUTIONAL INTEGRATION AND AGE

	Full integration	Limited integration	No integration	Total
Before 1961	1 (11.1)	3 (33.3)	3 (33.3)	7 (25.9)
Between 1961 and 1970	1 (11.1)	5 (55.6)	3 (33.3)	9 (33.3)
Since 1970	7 (77.8)	1 (11.1)	3 (33.3)	11 (40.7)
TOTAL	9 (100.0)	9 (100.0)	9 (100.0)	27 (100.0)

- The great majority (77.8 per cent) of the information units which are "fully integrated" in an institutional information system have been set up since 1970.
- 55.6 per cent of those with a "limited degree of integration" were set up in the 1960's.

TABLE 17

DISTRIBUTION OF INFORMATION UNITS BY DEGREE OF
INSTITUTIONAL INTEGRATION AND SIZE OF STAFF

	Full integration	Limited integration	No integration	Total
Large (5 or more staff members)	1 (11.1)	4 (44.4)	2 (20.0)	7 (25.0)
Medium (2 to 4 staff members)	7 (77.8)	2 (22.2)	4 (40.0)	13 (46.4)
Small (1 staff member only)	1 (11.1)	3 (33.3)	4 (40.0)	8 (28.6)
TOTAL	9 (100.0)	9 (100.0)	10 (100.0)	28(100.0)

- 3 out of every 4 information units with "full institutional integration" have between 2 and 4 staff members.
- Among the units with "limited integration", those with more staff members predominate (44.4 per cent have 5 or more).
- Those where there is no integration are primarily smaller information units.

TABLE 18

DISTRIBUTION OF INFORMATION UNITS BY DEGREE OF INSTITUTIONAL INTEGRATION AND SPECIALIZATION

	Full integration	Limited integration	No integration	Total
Specializing in areas of development	5 (55.6)	0 (0.0)	4 (40.0)	9 (32.1)
Specializing in disciplines	2 (22.2)	3 (33.3)	2 (20.0)	7 (25.0)
Diversified	2 (22.2)	6 (66.7)	4 (40.0)	12 (42.9)
TOTAL	9 (100.0)	9 (100.0)	10 (100.0)	28 (100.0)

- 55.6 per cent of the units with a high degree of institutional integration specialize in areas of development.
- Two-thirds of the units with "limited integration" have "diversified collections".

TABLE 19
DISTRIBUTION OF INFORMATION UNITS BY FIELD OF
 DEVELOPMENT ACTIVITY OF THE INSTITUTION AND SIZE OF STAFF

	Government	Education and Culture	Research	Production	Services	Total
Large (15 or more staff members)	1 (10.0)	6 (75.0)	0 (0.0)	0 (0.0)	0 (0.0)	7 (22.6)
Medium (2 to 4 staff members)	5 (50.0)	1 (12.5)	1 (50.0)	2 (100.0)	5 (55.6)	14 (45.2)
Small (1 staff member only)	4 (40.0)	1 (12.5)	1 (50.0)	0 (0.0)	4 (44.4)	10 (32.2)
TOTAL	10 (100.0)	8 (100.0)	2 (100.0)	2 (100.0)	9 (100.0)	31 (100.0)

- 75 per cent of the units in the "education and culture" field have 5 staff members or more.

- All the "services" units and 90 per cent of the "government" units, on the other hand, have less than 5 staff members.

TABLE 20

DISTRIBUTION OF INFORMATION UNITS BY FIELD OF DEVELOPMENT ACTIVITY OF THE INSTUTION AND THE SIZE OF COLLECTION OF NON-CONVENTIONAL BOOKS AND DOCUMENTS

	Government	Education & Culture	Research	Production	Services	Total
Large (over 10,000 volumes)	1 (10.0)	4 (50.0)	0 (0.0)	0 (0.0)	2 (22.2)	7 (22.6)
Medium (2,001 -10,000 volumes)	4 (40.0)	4 (50.0)	1 (50.0)	1 (50.0)	3 (33.3)	13 (41.9)
Small (2,000 volumes or less)	5 (50.0)	0 (0.0)	1 (50.0)	1 (50.0)	4 (44.5)	11 (35.5)
TOTAL	10 (100.0)	8 (100.0)	2 (100.0)	2 (100.0)	9 (100.0)	31 (100.0)

- Most of the units in the fields of "government" and "services" have "small" and "medium-sized" collections (90 per cent and 77.8 per cent respectively).
- Those in the "education and culture" field, in contrast, have "large" and "medium-sized" collections only.

TABLE 21

DISTRIBUTION OF INFORMATION UNITS BY FIELD OF
DEVELOPMENT ACTIVITY OF THE INSTITUTION AND
SIZE OF COLLECTION OF PERIODICALS

	Government	Education & Culture	Research	Production	Services	Total
Large (over 200 titles)	2 (20.0)	4 (50.0)	1 (50.0)	1 (50.0)	4 (44.5)	12 (38.7)
Medium (71 - 200 titles)	4 (40.0)	1 (12.5)	0 (0.0)	1 (50.0)	3 (33.3)	9 (29.0)
Small (80 titles or less)	4 (40.0)	3 (37.5)	1 (50.0)	0 (0.0)	2 (22.2)	10 (32.3)
TOTAL	10 (100.0)	8 (100.0)	2 (100.0)	2 (100.0)	9 (100.0)	31 (100.0)

- The units in the "government" field of activities usually have "medium-sized" and "small" collections (80 per cent).
- The "services" units normally have "large" and "medium-sized" collections (77.8 per cent).
- The units in the "education and culture" field show a contrasting situation, half of them possessing "large" collections and a considerable proportion (37.5 per cent) "small" collections.

TABLE 22

DISTRIBUTION OF INFORMATION UNITS BY FIELD OF
DEVELOPMENT ACTIVITY OF THE INSTITUTION AND
DEGREE OF SPECIALIZATION

	Govern- ment		Education & Culture		Research		Produc- tion		Services		Total	
Speciali- zing in areas of develop- ment	6	(60.0)	0	(0.0)	2	(100.0)	1	(50.0)	1	(11.1)	10	(32.2)
Speciali- zing in dis- ciplines	3	(30.0)	2	(25.0)	0	(0.0)	0	(0.0)	2	(22.2)	7	(22.6)
Diversi- fied	1	(10.0)	6	(75.0)	0	(0.0)	1	(50.0)	6	(66.7)	14	(45.2)
TOTAL	10	(100.0)	8	(100.0)	2	(100.0)	2	(100.0)	9	(100.0)	31	(100.0)

- The information units in "government" institutions are nearly all specialized (90 per cent), two-thirds of them "specializing in areas of development".
- In the fields of "education and culture" and "services", in contrast, units not specialising in any particular area predominate (75 per cent and 67 per cent, respectively).

TABLE 23

DISTRIBUTION OF INFORMATION UNITS BY WEEKLY
VOLUME OF CIRCULATION

	Number of units	%
High (over 250 volumes)	11	(35.5)
Medium (101 - 250 volumes)	6	(19.3)
Low (100 volumes or less)	14	(45.2)
TOTAL	31	(100.0)

- The information units are seen to be concentrated in the "high" and "low" categories (35.5 per cent and 45.2 per cent, respectively).

TABLE 24
DISTRIBUTION OF INFORMATION UNITS BY MONTHLY VOLUME OF
REFERENCE SERVICES

	Number of Units	(%)
High (over 200 consultations)	11	(39.3)
Medium (51 - 200 consultations)	9	(32.1)
Low (50 consultations or less)	8	(28.6)
TOTAL	28	(100.0)

- A fairly even distribution is noted, with a slight predominance of reference services in the "high" category (39.3 per cent).

TABLE 25

DISTRIBUTION OF INFORMATION UNITS BY FIELD OF ACTIVITY
OF THE INSTITUTION AND WEEKLY VOLUME OF CIRCULATION

	Government	Education and Culture	Research	Production	Services	Total
High (over 250)	2 (20.0)	7 (87.5)	0 (0.0)	0 (0.0)	2 (22.2)	11 (35.5)
Medium (101 - 250)	3 (30.0)	0 (0.0)	1 (50.0)	0 (0.0)	2 (22.2)	6 (19.3)
Low (100 or less)	5 (50.0)	1 (12.5)	1 (50.0)	2 (100.0)	5 (55.6)	14 (45.2)
TOTAL	10 (100.0)	8 (100.0)	2 (100.0)	2 (100.0)	9 (100.0)	31 (100.0)

- The units in the "education and culture" field have the highest circulation (87.5 per cent, or more than 250 loans per week).
- Half of the "government" units and 55.6 per cent of the "services" units have a circulation of 100 documents a week or less.

TABLE 26

DISTRIBUTION OF INFORMATION UNITS BY FIELD OF ACTIVITY
OF THE INSTITUTION AND MONTHLY VOLUME OF REFERENCE ENQUIRIES

	Government	Education and Culture	Research	Production	Services	Total
High (over 200)	1 (12.5)	5 (62.5)	1 (100.0)	0 (0.0)	4 (44.4)	11 (39.3)
Medium (51 - 200)	3 (37.5)	3 (37.5)	0 (0.0)	0 (0.0)	3 (33.3)	9 (32.1)
Low (50 or less)	4 (50.0)	0 (0.0)	0 (0.0)	2 (100.0)	2 (22.2)	8 (28.6)
TOTAL	8 (100.0)	8 (100.0)	1 (100.0)	2 (100.0)	9 (100.0)	28 (100.0)

- 62.5 per cent of the units in the "education and culture" field have a monthly volume of over 200 reference queries.
- Half of the "government" units solved a monthly volume of 50 reference queries or less.

TABLE 27
DISTRIBUTION OF INFORMATION UNITS BY LEGAL STATUS
OF THE INSTITUTION AND SIZE OF STAFF

	Public Sector	Other Sectors	Total
Large (5 or more staff members)	6 (25.0)	1 (14.3)	7 (22.6)
Medium-sized (2 to 4 staff members)	11 (45.8)	3 (42.9)	14 (45.2)
Small (1 staff member only)	7 (29.2)	3 (42.9)	10 (32.3)
TOTALS	24 (100.0)	7 (100.0)	31 (100.0)

- Units with less than 5 staff members predominate in both these sectors (75 per cent in the "public sector" and 85.8 per cent in "other" sectors).

TABLE 28

DISTRIBUTION OF INFORMATION UNITS BY LEGAL STATUS
OF THE INSTITUTION AND SIZE OF COLLECTION OF NON-
CONVENTIONAL BOOKS AND DOCUMENTS

	Public Sector	Other Sectors	Total
Large Collections (10,001 or more)	5 (20.8)	2 (28.6)	7 (22.6)
Medium-sized Collections (2,001 - 10,000)	12 (50.0)	1 (14.3)	13 (41.9)
Small Collections (2,000 or less)	7 (29.2)	4 (57.1)	11 (35.5)
TOTAL	24 (100.0)	7 (100.0)	31 (100.0)

- Half of the "public sector" units have "medium-sized" collections of non-conventional books and documents.
- In "other" sectors, in contrast, a little over half (57.1 per cent) have "small" collections.

TABLE 29

DISTRIBUTION OF INFORMATION UNITS BY LEGAL STATUS OF THE INSTITUTION AND SIZE OF COLLECTION OF PERIODICALS

	Public Sector	Other Sectors	Total
Large Collections (201 and over)	9 (37.5)	3 (42.9)	12 (38.7)
Medium-sized Collections (71 - 200)	6 (25.0)	3 (42.9)	9 (29.0)
Small Collections (1 - 70)	9 (37.5)	1 (14.2)	10 (32.3)
TOTAL	24 (100.0)	7 (100.0)	31 (100.0)

- The units in "other" sectors predominate (85.8 percent) with "large" and "medium-sized" collections of periodicals.
- In the "public sector" units, in contrast, there is no clear predominance of any category.

TABLE 30

DISTRIBUTION OF INFORMATION UNITS BY LEGAL STATUS OF
THE INSTITUTION AND WEEKLY VOLUME OF CIRCULATION

	Public Sector	Other Sectors	Total
High (over 250 volumes)	9 (37.5)	2 (28.6)	11 (35.5)
Medium-sized (101 - 250 volumes)	5 (20.8)	1 (14.3)	6 (19.4)
Low (100 volumes or less)	10 (41.7)	4 (57.2)	14 (45.1)
TOTAL	24 (100.0)	7 (100.0)	31 (100.0)

- 42 per cent of the "public sector" information units have a circulation of less than 100, and 38 per cent a circulation of over 250 weekly loans for consultation on the spot or at home.
- 57 per cent of the units in "other" sectors have a "low" circulation.
- In the middle ranges (between 100 and 250) the proportions are evenly divided between the "public sector" and "other" sectors (20.8 per cent and 14.3 per cent, respectively).
- The "public sector" includes the highest proportion (37.5 per cent) of the information units with a circulation of over 250 loans a week for consultation in the reference room or at home.
- 28.6 per cent of the information units in "other" sectors have a "high" circulation.

INFORMATION: THE NEGLECTED RESOURCE

Prepared by
Shahid Akhtar and Lynette Yip Young
Information Sciences Division
International Development Research Centre

INFORMATION: THE NEGLECTED RESOURCE

By Shahid Akhtar and Lynette Yip Young

ABSTRACT

The quantity of information generated in the world today as a result of research and development is so considerable that control of scientific publications has become a major activity in itself. Furthermore, there is a growing recognition by planners, policy-makers and administrators that information is a fundamental resource indispensable for the decision-making processes essential to development.

However, despite the vital importance of information, few countries have to date formulated a comprehensive national information policy supported by appropriate legislation, funds and institutions, and embodied in a national information system. As no single country can be entirely self-sufficient in information resources, each one must try to strike a balance between self-sufficiency and interdependence. International cooperation in the field of information exchange must benefit from a certain level of compatibility, so that regional and international networks can function effectively. Many international organizations have undertaken to develop standards and methods aimed at harmonizing national efforts; UNESCO's UNISIST Programme services as an umbrella for many of these activities.

UNISIST guidelines are now being followed by several proposed and existing international information systems including INIS and AGRIS. The model for these systems associates national participating centres which identify and submit information to a computerized processing centre located in a centralizing international agency such as IAEA, which merges the country inputs, generates a global file, and distributes it to all participating states. Thus, each country need only devote resources to keeping track of its own national production to be assured of receiving all foreign information through the central unit. INIS and AGRIS now capture about 90% of the world's information generated in their respective fields through this territorial formula.

This model has served as a departure point for the creation of some regional systems, including the Latin American data base on economic integration developed by CLADES. CLADES has now made substantial progress towards establishing a regional network of cooperating institutions in the field of economic integration, and will be producing a directory of Latin American information services available to outside users. The reaction has been positive enough to justify a belief that an embryo network of regional agencies providing information to a central data base can be foreseen.

At present, cooperative arrangements are being discussed with a number of national and subregional bodies. The computer system and methodologies used by CLADES are in wide use within the United Nations and in other international organizations, making co-operation and information exchange with other systems feasible.

The network concept may prove to be of interest to the Caribbean Development and Co-operation Committee (CDCC) as it considers modalities for the establishment of its own network and documentation centre. Cooperation between the two networks could be very profitable to the two regions involved.

RESUME

La quantité d'information produite dans le monde à la suite des travaux de recherche et de développement est telle que le contrôle des publications scientifiques constitue aujourd'hui une activité majeure en elle-même. De plus, les planificateurs, décisionnaires et administrateurs sont de plus en plus conscients du rôle primordial de l'information dans les processus décisionnels essentiels au développement.

Cependant, malgré l'importance vitale de l'information, peu de pays ont formulé jusqu'à ce jour une politique nationale globale de l'information soutenue par la législation, les institutions et les fonds appropriés, et concrétisée dans un système national d'information. Comme aucun pays ne peut aspirer à l'auto-suffisance absolue en matière d'information, chaque état doit tenter de trouver l'équilibre entre l'auto-suffisance et l'interdépendance. La coopération internationale dans le domaine de l'échange de l'information doit cependant bénéficier d'un certain niveau de compatibilité pour que des réseaux régionaux et internationaux puissent fonctionner de façon efficace, et plusieurs organismes internationaux ont entrepris d'élaborer des normes et méthodes permettant d'harmoniser les efforts nationaux; le programme UNISIST de l'Unesco chapeaute un bon nombre de ces activités.

Les principes élaborés par l'UNISIST servent dans plusieurs systèmes d'information internationaux existants ou proposés dont l'INIS et l'AGRIS. Ces systèmes sont constitués selon un modèle où des centres participants identifient et acheminent l'information à un centre national de traitement automatisé rattaché à une agence internationale telle que l'AIEA. Le centre fusionne les données, produit un fichier global et le distribue à tous les états membres. Ainsi, chaque pays peut concentrer ses efforts sur le contrôle bibliographique de sa production nationale et être assuré d'obtenir l'information produite à l'étranger par le biais de l'unité centrale. L'INIS et l'AGRIS traitent environ 90% de la littérature mondiale dans leurs domaines respectifs grâce à cette formule territoriale.

Ce modèle a servi de point de départ à la création de systèmes régionaux dont la Banque latino-américaine de données sur l'intégration économique mise sur pied par le CLADES. Le CLADES a marqué des progrès sensibles vers l'établissement d'un réseau coopératif régional d'institutions, et produira sous peu un répertoire des services d'information sur l'intégration économique disponibles aux utilisateurs extérieurs. Les réactions sont telles qu'elles permettent d'entrevoir la possibilité de créer un réseau embryonnaire d'agences régionales qui feront parvenir l'information à une banque de données centrale.

Le CLADES a entamé des négociations avec certains organismes nationaux et sub-régionaux en vue d'une collaboration éventuelle. Le système automatisé et les méthodologies qu'il utilise sont largement diffusés aux Nations Unies et dans d'autres organisations internationales, ce qui permettrait la coopération et l'échange d'information avec d'autres systèmes.

Il est également fort possible que le concept de réseau intéresse le Comité de coopération pour le développement des Caraïbes (CDCC) dans son examen des modalités de l'établissement de son propre réseau et centre documentaire. La coopération entre ces deux réseaux pourrait s'avérer profitable aux deux régions intéressées.

RESUMEN

La cantidad de información generada actualmente en el mundo por las actividades de investigación y desarrollo es tan considerable que el control de publicaciones científicas llegó a ser una institución por sí misma. Además, planeadores, elaboradores de políticas y administradores se concientizan cada vez más del rol de la información como un recurso fundamental e indispensable para la toma de decisiones y elaboración de políticas de desarrollo.

Sin embargo, a pesar de la importancia primordial de la información, pocos países han formulado hasta la fecha una política nacional de información comprensiva apoyada por una legislación, instituciones y fondos apropiados, e incorporada en un sistema de información nacional. Como ningún país puede considerarse enteramente auto-suficiente en recursos de información, cada uno debe balancear entre auto-suficiencia e interdependencia. La cooperación internacional en el intercambio de información tiene que beneficiar en un cierto nivel de compatibilidad para asegurar el funcionamiento eficaz de las redes de información regionales e internacionales. Varias organizaciones internacionales se han encargado de desarrollar normas y métodos dirigidos hacia la armonización de los esfuerzos nacionales; el Programa UNISIST de la UNESCO sirve como denominador común a muchas de estas actividades.

Las pautas UNISIST han sido adoptadas y se aplican actualmente a varios sistemas propuestos y existentes como INIS y AGRIS.

El modelo para estos sistemas reúne Centros nacionales participantes los cuales identifican y someten su información, a una agencia internacional centralizadora como AIEA, ubicada en un centro de elaboración automatizado. Este centro fusiona las entradas nacionales, genera un archivo global y lo distribuye a todos los estados participantes. De esta manera, cada país recibe toda la información extranjera a través de la unidad central y en cambio sólo necesita asignar recursos al inventario y procesamiento de su propia producción. En base a esta fórmula territorial, INIS y AGRIS ya están recibiendo aproximadamente 90% de la información mundial generada en sus áreas respectivas.

Este modelo sirvió de punto de partida para la creación de algunos sistemas regionales, como el banco de datos sobre la integración económica en la América Latina, desarrollado por CLADES. Este ha hecho hasta ahora valiosos progresos hacia la creación de una red regional de instituciones que cooperan en el campo de la integración económica, y se ha propuesto además recopilar un directorio de servicios de información latinoamericanos al alcance de usuarios extranjeros. La acogida ha sido bastante positiva lo que justifica la confianza en la factibilidad de una red embrionaria de agencias regionales que proporcionen información a un banco de datos central.

Actualmente se prosiguen discusiones en torno al establecimiento de mecanismos de cooperación con varias instituciones nacionales y subregionales. El sistema de computador y las metodologías de CLADES ya se utilizan extensivamente dentro de las Naciones Unidas y en otras organizaciones internacionales posibilitando la cooperación y el intercambio de información con otros sistemas.

Este concepto de red de información puede posiblemente ser de interés para el Comité de Cooperación para el Desarrollo del Caribe (CDCC) que actualmente está considerando modalidades para establecer su red y centro de documentación propios. La cooperación entre las dos redes podría resultar muy provechosa para las dos regiones involucradas.

"Knowledge is power and information is the principal ingredient of knowledge" 1/

Information: some definitions

Let us begin by defining what might perhaps be obvious to the participants of this meeting. What is meant by the term "Information"? As it is used in this paper it refers to "bibliographic information" -- but "bibliographic information" in the broadest sense of the term, that is, information about anything recorded in printed form: documents incorporating tables of statistical data, directories of projects, resources and manpower, or narrative reports and publications. Now that we have identified what we mean by information let us just say a word or two about the scope that we have in mind when we talk of information. It is the scope defined by the Information Policy Group (IPG) of the Organization for Economic Co-operation and Development (OECD) for setting up national systems of information. IPG has argued for the development of comprehensive information services within any society. It has stated that scientific and technical information is only part of an immense complex of information which includes economic, social, legal, political and technical aspects.^{2/} Information as we see it, therefore, embraces not only the natural sciences and technology, but also the social sciences.

Information as a Resource

The rate of generation of scientific and technological information by countries is extremely difficult, if not impossible, to measure. But taking a look at some commonly used yard-sticks for determining an adequate level of research and development (R&D) expenditure by governments, should give us an indication of the amount of information generated as a result of these activities.

1/ Piganiol, M.P., et.al., "Information For a Changing Society: Some Policy Considerations", OECD, Paris, 1971.

2/ ibid.

The UN World Plan of Action for the Application of Science and Technology to Development recommends that 5 to 10% of government budgets be allocated for national development. It further recommends, as an essential prerequisite for attaining a satisfactory level of national R&D capability, an investment target of 1% of GNP by 1980. For developing countries UNESCO suggested a per capita R&D expenditure of about \$2.00 in 1980. By any standards these are large sums of money for most countries and particularly for developing countries. Even if only a small part of the recommended funds is actually being spent by most countries, it would still amount to a vast investment. For instance, the fact that Canada accounted in 1975 for \$1.7 billion, or 3% of the world's total expenditure on R&D, gives some idea of the amounts being spent for R&D throughout the world. It also gives us an idea of the proportion of all information generated outside Canada.

Perhaps we can illustrate this point further by giving a few examples of the world's output of published literature as a result of this large investment.

In 1969, the US National Academy of Sciences estimated that there were two million scientific writings (journal articles, technical reports, etc.) appearing each year, or 6000-7000 a day. This amounted to 250 million pages a year, 150,000 pages a day or 20 million words a day. Georges Anderla has estimated that there could be a four-to-sixfold increase in the volume of this literature by 1985. This could mean that 8-10 million new articles would be in circulation in 1985. And this is a low estimate. Anderla has also estimated that, in 1973, the world stock of articles numbered at least some 20-30 million titles.^{3/} The European Nuclear Documentation System in Luxembourg has listed 1.5 million articles in the field of nuclear energy alone. Between 1907 and 1916 Chemical Abstracts registered 190,000 articles and between 1967 and 1976 3,470,000. UNESCO estimated that between 50,000 and 70,000 scientific journals appeared throughout the world in 1971.

^{3/} Anderla, Georges, "Information in 1985: A Forecasting Study of Information Needs and Resources", OECD, Paris, 1973.

Insofar as books are concerned, it has been estimated that there were approximately 100 million titles existing in 1971.

Anderla estimates that there are at least 10-12 million researchers/authors engaged in the creation of this information.

Given the heavy expenditures on R&D resulting in the generation of publications, it should be obvious to everyone by now that information is not a free commodity. It does not come into existence spontaneously or by accident. It comes into existence because somebody decided it was needed; someone put up the money for a piece of research, for a study, for a survey. The information, and the document in which the information is recorded, are indeed products of that investment. Whatever the size of the investment, once made it would be foolish not to keep track of the products.

Within a nation there are mechanisms - some refined, some less so - for determining the allocation of resources for R&D, with its resulting products. The degree of sophistication depends on the political structure of the society. But, whatever that structure, the totality of the information generated reflects the aggregate of national perceptions of what is needed. Information generated within a country is likely to be the most relevant and significant for the social and economic progress of that country. Intelligent use of that information can assist tremendously in making decisions that ensure the proper allocation of resources to all sectors of the national economy.

While many governments today recognize that economic development requires substantially increased levels of production, most have failed to appreciate the importance of information in this process.

But, as they join in the world trend of establishing national science and R&D policies, as they realize how much their scientific and technological interests, their prosperity, national security, and economy are dependent upon their participation in the free flow of information, and as the need for wise allocation of funds and equipment, and development of manpower assume greater importance,

it is not surprising that their interest in the transfer of information is aroused.

Scott Adams recently described information as a resource which is "inexhaustible" (because it is replenishable), "self-renewing" (because researchers continually validate their findings), and "interactive with human resources" (because unless men use it, it has little value). He went on to say that:

Economists today are postulating the emergence of a "Knowledge Society", in which the capacity to utilize information and knowledge becomes the source of power and the potential for material wealth and social well-being as societies move toward technological and industrial growth. Increasingly, information is recognized by planners, policy-makers, and administrators as indispensable for the decision-making processes essential to development. ^{4/}

One would expect, therefore, that each nation would already have as its highest goal the setting up of national systems of information. Unfortunately this is not so.

National Information Policy

The fundamental premise of a national information policy is that any economic, social and political system will perform more efficiently if a mechanism is provided which will ensure that managers and decision-makers have timely access to reliable and adequate information.

Very few nations can be said to have coherent, comprehensive information policies embodied within their general policy for science and technology - which includes all the related types of socio-political, scientific, technical and economic information - or, for that matter, within their general policy for achieving economic growth and other national goals. In the past, most nations have usually considered these policies to be separate and, hence, only parts of the overall picture have been considered at any one time. Perhaps this is because most nations have seen information policy

^{4/} Adams, Scott, "Information Policy for Development: National and International Responsibilities", UNISIST, UNESCO Document SC/76/Conf. 690/Col.8, Paris, August 1976.

as a complicated problem in the management of documents, and have failed to accept it as a major component of any policy for national development.^{5/}

Previous experience in the planning for national systems of information has shown that there are common elements in national information policy objectives for most countries, although there may be differences in priorities, approach, etc. warranted by special socio-political, economic, cultural and other considerations. This commonality arises from the fact that the ultimate goals of national information systems are more or less the same for all countries. Also the elements to be taken into account in planning national systems are for the most part similar. The preamble to a national information policy is, therefore, an overall statement of national information policy objectives from which detailed objectives can be derived.^{6/}

Some time back, the OECD's Information Policy Group developed a set of questions directed towards the formulation of a country's information policy. They form the basis for developing a comprehensive plan of action. Since the development of a national information policy is absolutely crucial to the proper utilization of this extremely important resource, those countries that have not already done so should examine these questions carefully with a view to conducting the necessary surveys within their own territories as a preliminary to developing their own national information policies. The questions are reproduced here as Appendix I.

Once any such surveys have been carried out, and prior to the launching of any national information activities, the concerned governments will need to ensure (i) that they evolve a national policy governing information; (ii) that that policy is implemented by a national plan incorporated in the general plan for national development; (iii) that a central agency, at a high level of authority,

^{5/} Piganiol, M.P., et.al... op.cit.

^{6/} Neelemeghan, A., "National Information Policy", Paper presented at the First UNISIST Meeting on the Planning and Implementing of National Information Activities in Science and Technology, Herceg Novi, Yugoslavia, 20-23 April 1976.

is identified or established, which would be entirely responsible for the planning and implementation (but not the routine operations) of the selected system of information; (iv) that appropriate legislation is drafted to ensure that budgetary provisions are met, and the program smoothly and effectively implemented.

National Information Systems

We shall most probably be hearing about the role and functions of a national system of information in some detail during the next session, but let me just state briefly here that to implement a national information policy the identification or establishment of a national focal point or documentation centre is necessary. This is entirely consistent with the experiences of other developing and developed countries that have gone through similar exercises. Although there are no single all-purpose models for such focal points or centres, the tasks that they are eventually required to perform are essentially the same. These include: (i) coordination, stimulation and promotion of all information activities as identified by the national information policy; (ii) encouragement of the adoption of accepted international guidelines and standards (e.g. UNISIST); (iii) identification of the different categories of information users, their special characteristics and needs, and development of a strategy designed to make optimum use of the information services being offered; (iv) encouragement and support of research and development in information and library science; (v) promotion and support of education and training programs in information sciences and user education; (vi) selection, acquisition, processing, storage, retrieval and distribution of primary documents in collaboration with the national library and/or sectoral documentation centres; (vii) development of cooperative and collaborative programs among all national documentation and library services and with regional and international information systems; and (viii) procurement and allocation of funds for the proper functioning of the national information system.

Self-sufficiency or International Cooperation?

Since not even the richest countries are entirely self-sufficient

in information resources, strong efforts must be made to remove impediments to the flow of information across national boundaries. This is particularly important where scientific and technological information is concerned, since much of this information is generated throughout the world.

While it is recognized that each country must judge for itself the extent to which it should attempt to be self-sufficient or rely upon international interdependence, it is also obvious that the most advanced and sophisticated systems of national networks will realize only a small fraction of their potential if they neglect to tap the world's store of knowledge.

This implies that a nation needs a compatible internal system to enable it to take advantage of the entire world output, extracting that which is of national importance.

Perhaps this form of cooperation is best illustrated by an example. In some regions, e.g. in Latin America, for agricultural information an exchange mechanism does exist. It hinges upon the compilation of specialized regional bibliographic tools such as Union Lists of Periodicals which lay the foundation for cooperative activities such as the exchange of publications, establishment of regional depositories, cooperative acquisitions and cataloguing programs. But nations must have something to exchange, and this implies national bibliographies, the basic record of their published output, without which effective exchange of bibliographic data is virtually impossible. Effective action at national level is thus an essential prerequisite for successful cooperation at the regional and international levels.

UNISIST and the Harmonization of International Activities

UNESCO's UNISIST program, which was established in 1971, is responsible for developing norms, standards, policies, etc. for the establishment of information resources and services at the national, regional and international levels. Many other international organizations are collaborating with UNISIST in this work. They include the International Organization for Standardization (ISO), the OECD, the International Council for Scientific Unions Abstracting Board

(ICSU/AB), the International Federation of Library Associations (IFLA), the International Federation for Information Processing (IFIP) and the International Federation for Documentation (IFD).

Clearly, it is beyond the scope of this paper to describe all the activities being undertaken by these organizations to develop policies, methods and standards which would harmonize information activities even further. But perhaps we can return for a moment to UNISIST, which serves as an umbrella for most of these other activities. For it is UNISIST that provides the necessary tools and the conceptual framework within which most other systems of information are being developed. Its aims are: to promote the formulation of information policies and plans; to facilitate the establishment and application of information methods, norms and standards by preparing manuals, handbook, and guidelines (see Appendix II); to encourage the development of information infrastructures; to develop human resources through education and training programs. It will assist, on request, Member States in developing their national information programs and infrastructures. ^{7/}

It should be pointed out that the increasing adoption of UNISIST standards and guidelines expands the available information base to serve any clientele, and increases the exchange value of both locally and internationally developed data bases. Hence, it is not surprising to see that, within the general framework of UNISIST, and in accordance with its recommendations, several information systems have been either proposed or developed. These include:

FAO's international information systems for agriculture (AGRIS) and (CARIS)

IAEA's International Nuclear Information System (INIS)

UNEP's International Referral System

CELADE's Latin American Population Documentation System (DOCPAL)

CLADES' Information Program on Social and Economic Development

UN's Common Register of Projects (CORE)

DEVSIS: Development Science Information System

UNDP's Technological Co-operation Among Developing Countries (TCDC)

^{7/} Wysocki, A., "UNESCO's Information Activities: The General Information Program and Sectoral Activities", UNESCO Document PGI/ADV.COM/1/4. Paper presented at the Second UNISIST Meeting on the Planning and Implementing of National Information Activities in Science and Technology, Freidrichdorf, Germany, 26-30 September, 1977.

Descriptions of these systems can be found in the literature.^{8/} We will only describe here the formula or model on which three of these systems (INIS, AGRIS and DEVSIS, the first two being operational systems) are based.

A Model for International Systems: The Territorial Formula

The model associates national centres in Member States of an international agency such as IAEA, with a processing centre within that agency. All Member States of the agency are entitled to participate. Each participating State agrees to submit to the processing centre in the agency, bibliographic records of both published and unpublished literature, generated within its borders, that falls within the scope of the system. Each document is described and recorded (on worksheets, magnetic tape, paper tape) according to internationally agreed standards. The processing centre checks and merges the input from each participating State into a computer-generated world file. The regular additions to the world file in the form of printed indexed bibliographies or magnetic tapes, are made available free-of-charge to each participating State in return for its national input.

The exploitation of the world file in any country is determined by that country according to its own policies and rules (it may be retained in the public sector or made available to the private sector). Copies of all non-conventional items reported to the system are available from the processing centre.

The international agency is responsible for producing and maintaining the tools and manuals that govern the operations of the system, for training programs to upgrade the skills of the

^{8/} See, for instance, Miller E.K. and Wild, K., "A Strategy for International Information Systems", Paper presented at the Special Libraries Association 68th Annual Conference, New York, June 5-9, 1977. Tocatlán, J., "International Information Systems". In: Advances in Librarianship, edited by M.J. Voigt, vol. 5, Academic Press, New York, NY, 1975, pp. 1-60. Adams, Scott and Werdel, J.A., "Cooperation in Information Activities through International Organizations". In: Annual Review of Information Science and Technology, vol. 10, edited by C.A. Cuadra, et.al., American Society for Information Science, Washington D.C., 1975, pp. 303-356. Coblans, Herbert, "Librarianship and Documentation: An International Perspective", Andre Deutsch, London, 1974, 142 pp.

national staff of participating States, and for coordinating the overall management of the system.

The international management and central processing costs are borne by the regular budget of the international agency sponsoring the system. The costs of processing at the local level are the responsibility of each participating State. But these costs are incurred in local currency and they are an investment that each nation should be making, in any case, if it wishes to have an inventory of what is being generated in its own territory. This cost, therefore, is roughly proportionate to the scale of its own R&D efforts or the amount of information generated within its borders.

Any country that compiles a comprehensive inventory of its information is already in a position to participate in international systems of the type described above with very little extra work. But the main advantage of participation in an international system is that it gives assurance that national resources (people, money, equipment) do not need to be devoted to keeping tract of potentially useful foreign information (an impossible task by any standards); the bulk of the national resources can thus be concentrated on getting complete bibliographic control of domestically produced information.

The success of INIS and AGRIS prove the validity of the "territorial formula". This is confirmed by the fact that both INIS and AGRIS are now capturing about 90% of the information generated throughout the world in their respective fields.

The Regional Concept

Since its inception, the model described above has undergone one significant modification, and that is the introduction of regional centres to support national participating centres. These regional centres act as input/output centres for a grouping of countries. They do not usurp the national responsibility. One such regional centre/network, AGRINTER, created in 1977, under the auspices of the Member States of the Inter-American Institute for Agricultural Sciences (IICA) is located at the Inter-American Centre for Agricultural Documentation and Information (CIDIA) in San Jose, Costa

Rica. It acts as an intermediary between national participating centres and AGRIS. Such a regional centre is better equipped than an international one to provide training in the language(s) spoken locally and to provide user services tailored to local needs. Some Caribbean centres are participating in this activity.

I understand that the organizers of this meeting will be showing us a film some time during the course of these deliberations about the AGRINTER/AGRIS concept and operations. Material is also being circulated among the participants on one of the systems (DEVISIS) based on the model described above.

Other Caribbean and Latin American regional networks are being considered or are actually operational. They are:

- (1) DOERS: the regional Development-Output Evaluation and Research Service of the Institute for Social and Economic Research (ISER), at the University of the West Indies, Mona Campus, Jamaica.
- (2) DOCPAL: the Centro Latinoamericano de Demografia (CELADE), based at the ECLA Office in Santiago de Chile. This is a regional machine-readable file of demographic and population information, established under UNISIST guidelines and it has its own abstracting journal.
- (3) REPIDISCA: the regional information system for sanitary engineering and environmental sciences, of the Centro Panamericano de Ingenieria Sanitaria y Ciencias del Ambiente (CEPIS) in Lima, Peru.
- (4) The regional information network on technology transfer (PPTT) of the Organization of American States located in Washington, D.C., USA.
- (5) The regional Medline and interlibrary loan system of the Biblioteca Regional de Medicina (BIREME), in Sao Paulo, Brazil.
- (6) The regional scientific and technological information network of the Junta del Acuerdo de Cartagena (Andean Pact).

- (7) The Latin American data base on economic integration being developed by the Consejo Superior Universitario Centroamericano (CSUCA), In San Jose, Costa Rica.

Of these eight networks, we shall discuss here only the last two, as they appear to be developing in a way which the Caribbean States may well emulate when considering the development of their sub-regional network.

In 1974, CLADES approached the International Development Research Centre (IDRC) for support to begin activities in the Latin American region which would prepare the ground for a regional information program on economic and social development patterned after DEVSIS. The first plan of the program had two components. If CLADES was to develop an effective program it needed to know what resources existed at the national level. It thus proposed to survey the key information and documentation facilities which provided services to users concerned with the social and economic aspects of development. The survey was the first component of the program. In addition, if CLADES was to establish itself as a valid service for the region, it had to show that it could provide the products which its users - both individuals and other information and documentation centres in the region - required. Thus the second component of the program was the installation of a computerized information system and construction of an experimental data base.

In spite of the absence of a global DEVSIS framework which could act as a guide to the methodological aspects of its work, CLADES has made substantial progress towards establishing a regional framework which can either stand by itself or eventually mesh with an international system.

The projects have been in operation for a little over a year and a half. But the beginnings of a regional program are already in evidence.

The CLADES approach to the survey of information facilities was to rely as much as possible on existing national programs. Project staff visited most countries in the region and identified organizations which were ready to conduct the survey on a national

basis. These cooperating organizations convened meetings of other national organizations at which the objectives of the survey, and the CLADES program itself, were discussed. A questionnaire, developed in CLADES and tested in Chile, was made available to cooperating national institutions who then took the responsibility to distribute it and collect the responses. Fifteen countries have participated actively in the program. Over 600 replies have been received. One result of the project has been an increased awareness of an interest in the CLADES program in the region. But, in addition, CLADES will be able to provide a number of services.

The basic product is a directory of those information facilities willing to provide a significant level of service to users outside their own institutions. This directory will be a computer-produced publication. CLADES will also maintain a data base on the facilities which can be queried, and this will be regularly updated. Some of the institutions surveyed will not be included in the regional directory because the level of service they provide does not justify it. However, CLADES will produce computer printouts of the facilities in each country and make these available to interested national institutions. The data collected on each country will also be analyzed to produce national diagnoses of the information infrastructures: concentration of service by subject, number of trained staff available, institutional "home" of services, etc. We believe that at least one of these products is being distributed at this meeting. After the completion of the diagnoses, CLADES intends to hold national seminars to discuss the results. These seminars will bring together managers of information services and government planners, to review the national situation and identify possible courses of action. Thus what began as a fairly simple survey has become a tool for strengthening links in countries among the various institutions involved in information, and for increasing governments' awareness of the strengths and weaknesses of the information support available to them.

CLADES also adopted a decentralized approach to the development of the data base on economic integration - although in this case the cooperating institutions were regional integration agencies

rather than national institutions. The first part of this job was to analyze the flow of documents produced by the agencies, to identify internal bottlenecks in their dissemination and to attempt to define remedies so that the documents produced would in fact be available to the users to whom they were directed. The reaction has been positive enough to justify a belief that an embryo network of regional agencies providing information to a central data base can be foreseen. There are a number of regional and subregional agencies in Latin America working on various aspects of the integration problem. Most of these would be strengthened by a freer circulation of information.

CLADES identified Instituto para la Integracion de America Latina (INTAL) in Buenos Aires, Argentina as a possible lead agency in documentation on integration. Seminars were held with INTAL staff to instruct them in CLADES abstracting and cataloguing techniques. Abstracts are prepared by INTAL experts, and completed worksheets representing INTAL documents are sent to CLADES for computer processing. Similar programs with ECLA and the Andean Pact organization are proposed to tap these organizations' own expert resources to abstract their own documents for input to the data base maintained by CLADES. CLADES will be able to produce regular bibliographies and maintain a question-and-answer service on the subject of economic integration - and the data base should include a high proportion of grey literature: material which is not otherwise readily available.

As the documentation centre within ECLA, CLADES is already building a data base of ECLA's documents and publications, and those of certain other UN institutions in Santiago, such as Instituto Latinoamericano de Planificacion Economica y Social (ILPES). It would not be practical for CLADES to attempt to collect all relevant material produced everywhere in Latin America and the Caribbean. But cooperative arrangements are now being discussed with a number of national and sub-regional bodies. Through these arrangements a national or sub-regional body would be responsible for identifying literature within its own territory - and within the scope of the CLADES program. This body would follow CLADES' norms for cataloguing and abstracting the material and would submit completed worksheets to Santiago for input into the CLADES

data base. One such sub-regional body (in addition to INTAL) that has already been identified, is the documentation centre (CEDESC) of CSUCA (See 8 above) which, in agreement with the Secretaria Permanente del Tratado General de Integracion Economica Centro-americano (SIECA), will identify, acquire and process the relevant literature for Central America and forward the completed worksheets to Santiago for input into the CLADES data base. CLADES will provide specialized printouts (and computer tapes to those wishing them) to CEDESC/CSUCA and to other cooperating organizations, and will also be in a position to disseminate the information to a wide audience in Latin America.

The computer system and the methodologies used by CLADES are in wide use within the United Nations and in other international and national organizations. Potentially, this provides CLADES, and the institutions that are cooperating with it, with a much wider resource base that they could tap into without very much difficulty. Also, were a global DEVSIS to emerge, they would be in an extremely good position to participate.

We have presented this network concept in quite some detail because we believe it is a concept that the Caribbean Development and Cooperation Committee (CDCC) may seriously wish to consider as a model for its own network and documentation centre (CDC) under consideration here at this meeting. Indeed, given that CDCC/CDC and ECLA's Office for the Caribbean already have a very close working relationship, and that their area of concentration - both in geographical and subject terms - is the same, it would appear to us that the pay-offs from agreeing to adopt the same working rules and guidelines that CLADES and its partners are working under would prove to be a considerable boon to CDCC's own work in this general area. It would link up the Caribbean, through CLADES/ECLA, to the resource bases of other Centres in Central and South America where similar work is being done. It could speed up considerably the development and implementation of the CDCC's own sub-regional network/documentation centre. We have among us today one of the principal architects of this project in CLADES/ECLA, Mr. Julio Cubillo. Perhaps some time during the course of this meeting we can get further insight into the work being done by him to establish the first truly regional network in Latin America and the Caribbean.

Information Policy and Management Review: Possible Issues for Examination

1. Have you a national study or set of guidelines on information policy? When was it proposed? What kinds of information does it cover - S and T? Social sciences? Non-technical information services? To what extent is policy thinking conditioned by technological advances?
2. The OECD Ministerial Meeting on Science in 1968 proposed that each Member Government should set up a high level focus for promoting and co-ordinating national information activities? Have you done this? Who is responsible? Where in government? What are its mandate and powers in relation to policy making, stimulation, co-ordination and operation?
3. What is the national (governmental? private sector? national focus?) expenditure on information services? How is this shared between R and D, transitional support for new services, and operational activities? Are there plans for increasing this expenditure?
4. What is the policy in relation to pricing and cost recovery for information services?
5. What is the policy for setting up national data bases and using or interacting with foreign data bases?
6. What principles guide the division of operations between the government sector and the private sector (scientific societies, universities, "information industry", industry, etc.?) Is there co-ordination at the national level between public and private sector initiatives?
7. What mechanisms and links exist to ensure that national information services respond to needs arising from social and economic objectives, and relate to governmental or industrial decision processes?
8. What national training facilities exist for information specialists? How are these expanding and changing in response to new requirements? What is the role of professional associations (e.g. of librarians or information specialists) in this training?
9. What is the government role in primary publication. Are pressures being exerted to change the rate and direction of information generation?
10. What is the government role vis-a-vis the user of information? Promoting new services? Training in their use? Direct or indirect subsidies to use them?

UNISIST MANUALS AND GUIDELINES

1. Guidelines for ISDS. International Serials Data System. 1973, 68 p.
2. UNISIST Guidelines for the Establishment and Development of Monolingual Thesauri. 1973, 37 p.
3. Study on the problems of accessibility and dissemination of data for science and technology. 1974, 102 p.
4. Information Policy Objectives. 1974, 102 p.
5. Guide for the presentation in the primary literature of numerical data derived from experiments. 1972, 7 p.
6. Reference manual for machine-readable bibliographic descriptions. 1974, 71 p.
7. Guidelines on the Planning of National Scientific and Technological Information Systems. 1975, 55 p.
8. Using and Improving National Information Systems for Development - Some Practical Implications for Policy-makers. 1974, 45 p.
9. Guidelines on the Conduct of a National Inventory of Current Research and Development Projects. 1975, 50 p.
10. Guidelines on the Conduct of a National Inventory of Scientific and Technological Information and Documentation Facilities. 1975, 46 p.
11. Guidelines for the "organization" of training courses, workshops and seminars in scientific and technical information and documentation. 1975, 88 p.
12. A Methodology for Testing and Evaluating Standards with Special Reference to Information, Documentation and Related Fields. 1976, 11 p.
13. Format Incompatibility, the Exchange of Bibliographic Information: A Comparative Study. 1976, 60 p.
14. Guidelines for the Evaluation of Training Courses, Workshops and Seminars in Scientific and Technological Information and Documentation. 1975, 63 p.

REGIONAL NETWORKS IN THE
FIELDS OF INFORMATION

Prepared by
Lincoln Samarasinghe
Chief, Section for Development of Information Infrastructures
General Information Programme
United Nations Educational, Scientific and Cultural Organization

REGIONAL NETWORKS IN THE
FIELDS OF INFORMATION

by L.E. Samarasinghe

The earliest known libraries in the near East were collections of manuscripts and books stored for the use of a select few who were philosophers, scientists or literacy scholars. In mediaeval Europe libraries were located in churches and monasteries, also serving a limited clientele and remained so until the Renaissance. In the 14th Century, university and other educational libraries began to develop simultaneously, followed by municipal libraries and national libraries. These latter libraries formed the nucleus of what are now the Bibliotheque Nationale of France, the British Library in the United Kingdom and the Lenin State Library in the USSR. Around the 19th Century, special libraries each serving a specific community of users appeared on the scene, some of the best known of which are the Science Library in the Science Museum of the United Kingdom and the National Agricultural Library and the National Medical Library of the United States of America.

At the present time, the many different types of libraries served by highly sophisticated techniques and highly skilled manpower are yet searching for ideal ways and means of serving their users and processing the immense volume of information which they are required to process and store. In this context, it seems reasonable to infer that network concepts, though not new in the history of librarianship will dominate future evolution of the profession, both from an organizational and from a technological viewpoint. It would probably be less and less necessary to have all the pieces of a library programme in one place so long as the programme parts can be linked together in networks and the resources of each part deployed to serve an overall system. The library of the future is not widely conceived of as a place at all, but rather as a far-flung network composed of units of various sizes and

types, each of which may perform similar as well as different functions.^{1/}

It might be relevant at this stage to examine some of the possible distinctions between a network and a system:

1. Systems tend to require more information for their description than networks, since flows must be described as well as structural relationships.
2. Systems have a unique controller regulating the state of the system as a whole; networks tend to have a plurality of controllers with a relatively high degree of autonomy.
3. Systems tend to have well-defined boundaries whereas the outer limits of a network is ill-defined and not of major significance to its description.

In the Study Report of the World Science Information System, regional co-ordination and co-operation is frequently stressed. This is considered as important as the participants of the study were doubtful whether many of the newly independent nations in the developing areas had the means to take effective measures for meeting the prerequisites for participation in UNISIST. It was felt that even the most intensive international assistance programmes could not create within a short period of time in these nations, an effective and operational national information system. On the other hand, regional co-operation leading to the pooling of resources of countries in a particular area could benefit from the concentration of effort, both of the co-operating countries and of the aid-giving organizations.

The working group on Scientific Information in the Developing countries proposed that regional co-operation of this nature should be limited to two forms:

- (a) a federation of existing national centres in neighbouring countries on a geopolitical or geolinguistic basis,
- (b) a centre serving a plurality of countries on the same basis, initially under the financial and technical responsibility of an international organization advised by Member States, until such time as a federal body representative of the countries involved may take over this responsibility.

^{1/} Stone, C.W. Library functions redefined. Library Trends, October 1967.

In both cases, the delimitation of the area to be covered should show some concern for on-going regional development plans, where they exist, in order that the action of the regional centres may have more viability and impact.

Let us examine, in some detail, the problem of information. In the Draft Medium Term Plan (1977-1982) of UNESCO, the introduction to the chapter on Transfer and Exchange of Information reads 'Information has become an essential basis for the progress of civilization and society. Lack of information and of effective means of exchanging it are now widely recognized as being limiting factors in the economic and social development of peoples. Thus, the problem of information, is none other than the problem of mankind's knowledge - the collective memory which society must learn to control effectively and utilize fully in order to progress'.^{1/}

The following have been identified as some of the more apparent features of the problem of information:

- the exponential growth of the mass of information available resulting from the rapid increases in the numbers of scientists and the diversification of the fields of science and technology.
- the rapid development of the technologies used in the processing, storage, retrieval and communication of information and the increasing application of computer technology, telecommunication and reprographic techniques in information activities.
- lack of means in the developing countries for access to the information resources of the industrialized countries. This situation is an obstacle to the economic, technological, social and cultural development of developing countries.
- need for international norms in information which when applied would facilitate international exchange and transfer of information.

^{1/} UNESCO. Medium Term Plan (1977-1982). 19th General Conference, Nairobi. 1976p. 319.

- a trend towards integration in information and the establishment of systems applying common procedures, methods and technologies. The lack of basic infrastructures, such as libraries and archives and the lack of the required manpower in many developing countries.

These are some of the more important factors to be considered in the design of an information system whether national or regional. Such a system, which could take the form of a network of co-operating institutions, should be oriented towards attaining the following objectives:

1. To provide users, including scientists and technologists, with information concerning the latest published reports in their field of interest, as well as information on on-going research.
2. To provide a system for the collection, processing and dissemination of information pertaining to the region as well as information which originates in countries outside the region.
3. To provide facilities for the training of an adequate number of information specialists, documentalists, librarians, archivists and technical staff, and for the training of users of information.

These functions would be implemented by the performance of the following specific tasks within the network:

1. Co-ordination of information resources.
2. Development of resources.
3. Services to users.
4. Depository of research results produced in the region.
5. Training of personnel.

In order to carry out these functions it will be necessary to organize the information resources of a number of widely dispersed institutions into a co-operating network within which the following services will need to be established in a centralized or de-centralized manner:

1. A document procurement service which will obtain for a user a photo-copy, microfilm or reproduction of any published scientific article that may be requested.

2. A current awareness service, which will provide selected users with information on the literature published in their field of interest.
3. A translation service, which will provide the user with a complete translation or abstract, in a language understood by him, of any article which has been published in a language which he does not read.
4. An enquiry service, where requests for scientific information or answers to specific questions can be obtained by telephone or postal enquiries.
5. A reprographic and printing service which will be used for reproducing documents through microfilming, printing, photo-offset, or photo copying.
6. Exchange service where the publications of the system will be exchanged with other information centres and systems abroad.

The organization of an information network may require use of modern computer technology and telecommunication at some stage in its development. It is for this reason that I have included in this paper a brief survey of some of the recent work on information networks as well as some of the ideas of experts regarding prospects for the future in the light of these advances.

A good example of an international on-line enquiry service is that provided by the European Space Research Information Network (ESRIN) at Frascati. ESRIN is an international scientific institution, belonging to an international intergovernmental organization, the European Space Agency (ESA). It is one of the world's largest information centres for mechanized documentation, using a dedicated computer and a dedicated network, ESANET. The ESRIN data base contains 17 different files, covering a number of subjects, with a total of about 7.5 million document references. The files, each with a separate thesaurus, are accessible, via interactive terminals, by using the SDS/RECON on-line retrieval system. The ESRIN system, until now a monocentric system (one central data base) is to be developed into a multicentric system.

In the proposed EURONET project of the Commission of the European Communities, the ESRIN computer will be one of the main host computers in a system whereby through EURONET, users will have access to other computers and to other data bases. ESA has signed an agreement with the Spanish Government for a feasibility study on the establishment of a second computer centre in Madrid towards the construction of a bicentric system capable of storing 23 million document references. The ESRIN network now has 10 terminals in nine European countries and in 1975 linked up with Rabat, in Morocco, where a terminal is located at the Centre National de Documentation. This centre in Rabat was set up with assistance from UNESCO and FAO.

Interlibrary exchange by networks may be considered as including both the lending of publications as well as exchange of information relating to processing activities. The international TELEX network is widely used in interlibrary lending. For instance, the Canadian National Union Catalog of the National Library of Canada (1) receives the majority of its requests for loans via TELEX. The other type of network is what is known as library processing networks of which the best known is the Ohio College Library Centre Network (OCLC), which in June 1973 included 55 libraries and agreements to extend services to regional library groups outside Ohio, including five Associated University libraries (FAUL) in New York State and New England Library and Information Network (NELINET). By February/March 1973 OCLC had an on-line data base of some 0.8 million records accessed by 178 terminals.

The four objectives of the Ohio College Library Centre are:

1. To place at the disposal of the users of each library, the resources of all the libraries participating in the system. This is achieved by co-operation among the various libraries for mutual benefit.
2. To reduce costs. In the USA the cost of services in libraries rises 6 times faster than in the rest of the economy. It is therefore necessary to introduce a technology that will increase the output of personnel.
3. To furnish information to users when and where they need it. Through the use of terminals access to information is quick and readily available.

(1) Canadian National Union Catalogue Location Requests Survey
Ottawa, National Library of Canada, 1972 p.27.

4. Re-personalization of the large libraries. Through a terminal a user can function as an individual even in a large library.

OCLC consists of 5 sub systems:

1. Conversational collective catalogue or shared catalogue.
2. System for the control of publications in series - union catalogue with the capacity for also drawing attention to delays in the arrival of particular issues of periodicals.
3. System for acquisitions - will also have housekeeping functions.
4. System for interlibrary loans.
5. System for interrogating the catalogue by subjects and titles.

These three selected examples should suffice to illustrate the possibilities available in the organization of regional networks. They are successful operational systems and their experience would be extremely useful in the future evaluation of the problem in the Caribbean Region.

What progress can we expect in the near future, say, up to 1984. Forms of publication will be as today with a continuation of the increase in acceptance and importance of microforms and audio visual material.

Mechanization of processes will increase, e.g. acquisitions, cataloguing and circulation and a continuing increase in inter-library lending and co-operation.

On-line operations will increase.

The most obvious change in the bibliographic information ADP area will be the growth of on-line data bases including:

- special subject data bases (MEDLINE)
- multiple subject data bases (ESA/RECON)
- general information data base (N.Y. Times)

Library data bases

- national MARC data bases in a number of countries
- national union catalogues in a number of countries
- commercial bibliographic data bases for library processing.

On line access in these data bases will not be very cheap. Magnetic tape interchange will continue to be widely used for high volume - low urgency interchange.

National differences will be more evident in on-line library data networks than in on-line documentation data base networks. The latter are more likely to operate on a multinational basis with a single data base serving a group of countries with a threshold number of persons working in the given subject field and able to use the language of the service. For instance MEDLINE may well serve the English speaking world from a single data base installation.

Computer and communication technology would not be a prime constraint on progress in automation. Costs of computers and related hardware is decreasing rapidly. Organization factors are the principal constraints on progress.

A nation wide network raises problems of the relative roles of participating organizations at the local, state, regional and national levels. In a multinational information network the problems multiply with different national patterns and policies and the involvement of different telecommunication authorities.

Telecommunications in Networks

A study on Information networks for on-line bibliographic retrieval was carried out for the UNESCO-UNISIST programme by Karlander and Sem-Sandberg. The following are some of their main conclusions and recommendations:

Usage of Networks

The cost of the communication network is dominated by the cost of international lines. It is therefore important to make the best use of these lines, which can be achieved by:

- 1) Use of high speed modems and efficient traffic concentration methods.
- 2) Using the data transfer capacity to satisfy the important needs of as many users as possible within each of the countries connected to the network. Usage of the network can be increased by the following means:
 - i) increasing the number of access points in each country
 - ii) increase in the number and coverage of data bases available for bibliographic information retrieval via the network.
 - iii) expand the types of services to include matching of the retrieved references against files with information on where the full documents are held. The possibility of delivery of the completed document via facsimile should be considered.
 - iv) use the networks as inputting facilities for the generation of regional information data bases.

Network design

Distributed networks have considerable advantages over centralized networks. They will enable the connection of many different local resources to the network and thus serve as a valuable infrastructure for international information exchange.

High line costs require optimisation of network topologies. Response time characteristics should also be considered. For the design of networks previously developed and proven system of technology should be used wherever possible.

In further development of a network the use of packet broadcasting technology should be considered.

In the long time perspective combination of regional and extra-regional information centres appears desirable to provide economic access to a large variety of data bases.

Data bases produced within the region and available on existing regional host computers should be connected to the regional networks. Other frequently accessed data bases may also be economically installed in each region, at least for SDI or current awareness services. It will however be more economical to use telecommunication to access regional information centres for use of very large

data bases which are less frequently used.

It is felt that the establishment of extra regional links to major information centres, or connections to existing international networks providing such access, will be required at an early stage as a fast way of providing desired services.

It has been suggested that developing regions could use communications satellites. Although at present satellite systems require expensive and complex ground stations and rely on ground based telecommunications systems for local distribution, further developments in satellite communications are expected to provide the possibility of less dependence upon ground telecommunications facilities. Parker has pointed out that ground stations costing about \$37,000 capable of carrying three-voice channels each are now going into service in Alaska to provide local communications in remote areas not served by a normal telephone network. This application requires a domestic satellite of the US Domsat type, and although at present the possibility of application in developing regions is remote, it is nevertheless an interesting approach to the problem. On the same lines De Sola Pool has been working on the utilization of INTELSAT in a sub-optimal manner with small ground stations costing \$150,000 each, but this is still too expensive for data communications.

Information

The development of information centres which can provide on request articles and reports is an essential prerequisite of net-worked retrieval service. The General Information Programme of UNESCO is engaged in setting up in developing countries appropriate networks of information comprising libraries, archives and scientific information systems aimed at the co-ordination of the total information resources of these countries in such a manner as to facilitate the location of information resources required by all types of users in the countries concerned. These networks with co-operative agreements established with larger bibliographic centres abroad are the only sources for obtaining complete records of articles required by these users. Until such time as the technical problems for transmittal via networks of complete articles and reports in facsimile are solved, the

problem of obtaining these reports will need to be considered as one of equal importance with other factors in the networking operation.

The major problems involved in the extension of inter-active networking to developing regions are essentially institutional and financial rather than technical. The charges for international lines and for use of data bases do not seem to be established on a valid basis, and in any event are at present beyond the possibility of the poorer countries. Also as has been mentioned earlier, the absence of an appropriate national information infrastructure is another aspect which needs attention.

Problems in the automation of information processing

Experience of automation of information processing has proved that the pioneers in their enthusiasm for applying new technology had not paid enough attention to economic, organizational and professional problems. It is also accepted that while earlier, the software problems of managing a large on-line data base were grossly underestimated, it is now economically advantageous to make use of existing data base management and communications monitor software and to write applications software interacting this! Another difficulty which manifested itself was as a consequence of underestimating the cost of converting records to machine-readable form and in not recognizing the possibility of using common records. If common standards had been applied the utilization of common records would have been feasible. Much record creation and conversion expenditure can be saved if both producing and consuming libraries use common standards. In 1973, a standard on "Formats for bibliographic information inter-change on magnetic tape"^{1/} ISO 2709 was published but the work on adequate standards for bibliographic information inter-change is still inadequate. Duchesne writes "Provision of adequate subject access to information remains one of the most intractable of all the problems in the information world. As an example of the impact of problems on the subject-side, each of the files making the ESRO-RECON data base has a different

^{1/} Duchesne, R.M. Canadian National Bibliographic Data Base Study report. Ottawa, National Library of Canada, 1974.

scheme of keywords - each data base has to be searched separately using its own keywords. This raises the cost of operating the computer system and creates difficulties for the user wishing to search more than one file: it affects adversely the cost-effectiveness of the facility"^{1/}

Conclusion

It is apparent that the design of the information system should be made after a thorough survey of the needs of the users of the system. The scope of the system will depend on a number of factors of which the most important would be the available financial resources and the trained personnel. We have observed in a number of developing countries, that due to a limitation of the funds available for the acquisition particularly of scientific and technological journals, there is a great dependence upon an information procurement service which attempts to obtain information from large centres located abroad, often resulting in delays which are very frustrating to scientists. The General Information Programme of UNESCO has taken steps to assist governments to develop their national information systems and has carried out in a number of countries, surveys to determine available resources of information, personnel and physical facilities to serve as a base for the future planning and organization of information service.

^{1/} Duchesne, R.M. 1963/1982 Twenty Years of Library Application of EDP (unpublished)

INFORMATION SYSTEMS EXISTING
IN THE DOMINICAN REPUBLIC

Prepared by
Pedro Gil Iturbides and Dra. Martha M. De Castro C.
Director/Representative
National Library
Dominican Republic

INFORMATION SYSTEMS EXISTING
IN THE DOMINICAN REPUBLIC

by Pedro Gil Iturbides/
Dra. Martha M. De Castro C.

In the Dominican Republic it can be said that in the present decade there has been achieved a strengthening of the existing information services.

The creation in 1971 of the National Library and the adoption of its mission as being that of a central organization for bibliographic activities, the presence in the country of persons with preparation in Library Science and Documentation Study at the University level, the technical - theoretical training through at least six intensive courses, directed by nationals and foreigners. National Library - 4; Central Library of the autonomous University of Santo Domingo - 1 (audio-visual); technological institute of Santo Domingo (INTEC) - 1 (audio-visual), the coming into being of new libraries and documentation and information centres, as well as the creation in 1974 of the Dominican Association of Librarians (ASODOBl) and the Library Association of the Dominican Republic, are among others, factors that assist in meeting this criterion.

The real situation in the information systems of the country has most recently been detected through the survey initiated by the Economic Commission for Latin America through the arm of CLADES, within the framework of the "inventory of information and documentation services in Latin America and the Caribbean in the Economic-Social field" with the purpose indicated in the statement of its objectives of "carrying out a diagnosis of the capabilities and deficiencies of the units and information networks existing in Latin America and the Caribbean in the economic and social

field, with emphasis on the study of the feasibility and convenience of integrating them to networks existing or future which are organized at the national level". (1)

Thirty-three members in charge of information units were present at the initiation of this contact on the 19th of November 1976 and they were informed of the workings of the project by Sr. Julio Cubillo, Project Adviser of CEPAL/CLADES. At this meeting there was accomplished the first handing out of the questionnaires (24).

1. Units identified:

Fifty-one information units of relevant interest have been identified at the diagnostic stage, (in the country).

1.1 The characteristics of the fifty-one information units are as follows:

1.1.1. Official information units - 35

1.1.2. Units from private institutions - 9

1.1.3. Multinational and binational organizations - 7

1.1.4. University information units - 4

1.1.4.1. State Universities - 1

1.1.4.2. Private Universities - 3

1.1.5. Higher Institutes - 4

1.1.6. Archives and collections - 3

1.1.7. Documentation and Information Centres - 8

1.1.7.1. Mechanized services - 2

1.1.8. Libraries - 41

2. Questionnaires received - 13

A high percentage not yet quantified, is estimated to have their collections organized technically or with some type of organization: The National Library; University and Research Libraries; higher Institutions; the District Public Library; Private Libraries and those of International Organizations, e.g., IICA: OPS, among the first group and Libraries of Associations, decentralized Institutions and official Institutions among the second group.

3. Services:

Up to the present moment only the library of the Supreme Court of Justice has been identified as providing a service exclusively for its officials. Those libraries

with characteristics not eminently public, offer in some measure certain flexibilities in the face of the different user cases, although the primacy of its own natural users is maintained.

The following are offered:

- 3.1. Internal loans (generally)
 - 3.2. External loans (University Libraries)
 - 3.3. Inter-Institutional loans
 - 3.4. Bibliographic services
 - 3.5. Elaboration of summaries
 - 3.6. Indexing service for information
 - 3.7. Reference
 - 3.8. Inter-change of books and other documents
(Exchange at the national and international levels)
 - 3.9. Photocopies of articles and summaries
 - 3.10. Audio-visual services
 - 3.11. Publications
4. Information Units that possess within their national boundaries automated systems.
- 4.1. Documentation Centre of the Dominican Institute of technology of the Central Bank of the Republic (INDOTEC)

Recently there was established in this Centre, the semi-automated system Terma-Trex, as a system for the storage, classification and retrieval of information on the basis of punch cards and literature projected on a screen.

In this unit, the services of question and answer are being offered; as well as the photocopying and exchanging of documents. It publishes a newsletter with summaries of research carried out on Science and Technology. (2)
 - 4.2. Documentation Centre of the Dominican Centre for Export Promotion. (CEDOPEX). Recently there has been established the Panama - Central American - Dominican Republic Commercial Information network that was engendered at a meeting held in October 1977 in Guatemala, created by the Geneva International Trade Centre of the United Nations.

The instruments in use are: Thesaurus of the Belgian Office of External Trade Information of the International Trade Centre; Brussels Tariff Nomenclature for the Treatment of Products. It has an International Loan and Information network, through the medium of copies of cards. (3)

5. Information Staff existing in the country:

At the moment there are 179 persons who have pursued library studies in courses at the technical level and 26 at the University level.

6. Bibliographic work being elaborated: This consists of 2 activities:

6.1. "Current Dominican Republic Bibliography". This is being done by the National Library.

6.2. "Collective catalogue of periodic publications in Science and Technology being done by INDOTEC" (the Dominican Institute of Technology of the Central Bank of the Republic)

7. Projects:

7.1. The elaboration of a "collective catalogue of national works". This will be undertaken by the fund for the advancement of the social sciences, in which 13 information units of greater importance will be integrated.

7.2. Feasibility study of the Agricultural Documentation Centre in the Agricultural Secretariat. This is being done by the Inter-American Agricultural Documentation and Information Centre of the Inter-American Institute of Agricultural Science in San Jose, Costa Rica. Links have been forged with: the National Library; Universities and other Information Units of the Agricultural Sector.

7.3. National Library network. Department of Library Extension. A study conducted under the National Library's direction, with a view to determining the situation of the public libraries in the country which is near completion, has revealed at the same time, the existence of some 57 public libraries depending on municipalities and municipal districts; 11 libraries which belong to municipal institutions but which are

owned by social and cultural clubs or circles and 23 academic and college libraries throughout the entire country.

In this study what stands out forcibly is obsolescence of the libraries, public, municipal or not, due to the lack of adequate material, whether it be in the order of bibliographical works in general and appropriate documentation - there is even a lack of municipal material - and the almost total absence of publications of a periodic nature; and, in an equal manner in the academic libraries although they possess to a greater extent a bibliographic heritage destined exclusively for teaching purposes, the study highlights the absence of an organized body of work which permits, in some libraries, a rapid and effective retrieval of the information required by the user.

The same study reveals the absence of an acquisition policy on the part of the municipalities and library - sponsoring associations. This picture changes when one refers to the academic libraries above all, in the libraries of private religious colleges, in which the interest in the fostering of acquisition policies has permitted funds to be earmarked for the purchase of works of interest to their respective institutions.

In the last two years some colleges began to train specialized staff, albeit at a very elementary level, with the objective of organizing the little libraries according to the decimal classification system as proposed by Dewey. Nevertheless, in many cases the very audio-visual material of the school does not fall under the supervision and control of the library, except in two specific cases out of the 11 surveyed in the study.

Insofar as concerns the municipal libraries, coupled with the absence of adequate bibliography, there neither exists, at least momentarily, a firm action aimed at the grooming of staff to manage the little rooms that function under the name of libraries. The picture is pretty gloomy in this respect, and the situation in the country will be better understood, let us state here that one person in charge of one of these libraries is illiterate and another 15 persons have pursued very elementary studies at the primary school

level. The resulting picture, which could be laughable at first, has been understood, however, by the National Library, has been very dramatic and has been outlined as a compromise for its present action, the joining of efforts with other public entities with the objectives of procuring the training of staff and the gradual substitution of present staff, or, the assimilation of these persons into positions consonant with their training.

But the task undertaken in this direction goes even further; in effect, we are pleased to point out that it is the aim of the National Library to initiate everything concerning the creation of a National Library network and, for these objectives, there has been a bringing forward of actions before international organizations such as the Organization of American States (OAS) before which the 11 studies will be presented. Besides, there has been a modest request and obtention of aid from other nations, like the United States, whose Department of Education, through the State Department has just held a Seminar directed by Dr. William Jackson, a well-known Library Scientist of that nation (U.S.A.), who spent a good portion of his time examining everything relating to the project earlier mentioned (the creation of a National Library network).

With a view to the promotion of everything referring to this programme which would conceive of the library, not as a unit in its traditional sense, but as part, and a very important part, of the National Information System; the programme has already paid for an architectural model study, which, it is hoped, can be applied with modifications as dictated by the various local conditions, in the entire country or, at least, in its most important townships.

METHODOLOGICAL SCHEME FOR THE ECONOMIC
PLANNING OF THE ACTIVITY
SCIENTIFIC AND TECHNICAL INFORMATION

Prepared by
Luis Pensado Bec
Director-General of Planning
Cuba

METHODOLOGICAL SCHEME FOR THE ECONOMIC
PLANNING OF THE ACTIVITY
SCIENTIFIC AND TECHNICAL INFORMATION

by Ing. Luis Pensado Bec

The Head of the Cuban Delegation to this Conference has explained the structural and organic basis adopted in our country for the activity, "Scientific and Technical Information", which is called National System of Scientific and Technical Information (SNICT).

With our intervention we have the intention to explain briefly the mechanism of planning that is being implemented for this activity; and we hope that by 1980 it will be fully operational.

Before reaching the main point of the intervention, I consider it useful to refer very briefly on scientific activity in general, with the view of locating the scientific and technical information within the context that corresponds to it.

Every four to five minutes an important innovation or discovery in the world occurs. One is living in a special period of Scientific and Technical Progress, which manifests itself in qualitative changes in the economy; in the obsolescence of equipment and technology, resulting in:

- time between the discovery, the innovation and the decision to introduce it is reduced;
- time of introduction is the same, while that of the life of what is introduced is less;
- acceleration of the Scientific and Technical Progress which takes place - more in the areas and new branches of the economy than in the traditional ones.

Thus, for example, computing machines in 5 years perform what other industrial equipments took 50 years. In general these aspects of the Scientific and Technical Progress present a problem which is not of speed but of acceleration. For this reason, it is more convenient to sell those innovations, than to produce merchandise and afterwards sell them.

The Scientific and Technical Revolution has its repercussions in objects, instruments, work environment, energy, etc. One cannot say what is the principal link or the basic factor. Now they say that computers, the electronic machines which are used in all branches - but at the same time one can take another factor, because we are in the presence of the second industrial revolution, or that we are witnessing the first scientific and technical revolution.

It can be affirmed that every year the process of specialisation and integration of science is intensified. During the XIXth Century, Mechanics was the main science. During the first half of this century, Physics was the principal science. Today, one cannot say precisely that any science is the principal one - Physics or Mathematics or Biology.

The most important question is that science has developed at a more rapid pace than techniques, and techniques as a rhythm, more rapid than production.

In this way, it is not possible to expect results from science, without planning then for production. A country that is not working on these bases would be definitely left behind.

In Cuba, under a socialist regime, centralized economic planning exists as a most fundamental premise of the system.

The plan of the national economy includes all the activity of scientific and technical progress in all diversity, investigations, introduction of progress, acquisitions of licences, formation of scientific frameworks.

The actual planning of scientific and technical activity is established under the following basis:

1. The determination of the network of units of technical and scientific information that constitute the National System.
2. Application of a specific methodology of planning.
3. Organising the form of financing to the planned activity.

4. Maintaining a control of the execution of the plan during the period and introducing the necessary corrections.

In order to facilitate the planning of the scientific and technical information, the distinct tasks pertaining to the activity were studied and the following definitions have been made:

1. Works of investigation on the theory and practice of Technical and Scientific Information

They include the works of scientific investigation, orientated to the solutions of basic problems of theory and practice of scientific and technical information and of the scientific and informative activity; also the increase of efficiency of the systems of technical and scientific information, for example, those studies that are realized under:

- bibliographic works;
- creation and perfecting languages of informative research;
- design of systems of technical and scientific information.

2. Analysis of the Technical and Scientific Information received

These consists of the elaboration of economics and technical reports with a view of disseminating them; the elaboration of analytical and informative reviews, as well as the studies for progress and achievement in science techniques and the experience both nationally and extra-territorially. This includes the following aspects:

- analysis of sources of scientific and technical information that is received in the information organ as well as its selection, systematization and classification.
- analysis of the thematic correspondence of the sources of scientific and technical information, with the classification by subject that the information organ uses.

3. Analysis synthesis and transformation of the Scientific and Technical Information received

These consist of the realization of the systematization, classification, examination of the sources of technical and scientific information as well as annotation,

extraction, preparation of synopses, preparation of reviews, preparation of briefs and others.

It includes the preparation of indices such as bibliographies by subject, permutation of titles, contents of tables, quotations and others.

It includes also the analysis of scientific organizations of the apparatus of Information Banks and References (types of catalogues and Kardex).

In summary, the following tasks are considered as part of this title:

- Classification
- Annotation
- Preparation of extracts
- Preparation of briefs
- Other types of synthesis, analysis and transformation
- Preparation of different information publications (bibliographies, summaries and others)
- Preparation of different types of indexes.

4. Information and Reference Services

This work consists of processes directly related to the search for specific data or information with the view of satisfying a specific request by supplying the corresponding reference or the information itself.

Included in this is the realization of the services of information and references for occasional requests such as the services of fact-finding, copying documents, consultation, translation and others, as well as the carrying out of services of selection and distribution of information.

Moreover, they include the functions of maintenance, registration and utilisation of the Information Bank and references, the completion and control of its execution. In this way, these titles could be summarized in the following manner:

- Service of the reading room
- Service of bibliographic research
- Service of lending

- Service of consultation and reference
- Service of copying of documents
- Service of research
- Service of selective dissemination
- Service of fact-finding
- Service of translation
- Acquisition of Information Banks
- Preparation of catalogues for Information Banks.

5. Work Organisation and Scientific Methodology

This includes the functions of introducing into practice the results of scientific investigation on theory and practice to the technical and scientific information.

This includes the following functions:

- Elaboration of indices and methodological material
- Elaboration and implementation of technical documents related to standards
- Assistance and consultation on scientific and organisational methodology
- Operational control of the work of the unit of scientific and technical information
- Organization of seminars and related courses
- Activities in the field of educating users
- Activities related to international relations and scientific and technical collaboration

6. Scientific and Technical Dissemination

This consists of functions for dissemination of scientific and technical knowledge, for demonstrating clearly the substance and importance of the results of the scientific investigation, inventions, innovations, etc., with the object that they will be assimilated and applied in practice.

This includes the following functions:

- scientific and technical publications
- organization of programmes for radio and television
- preparation of material for technical and scientific dissemination for the press
- exhibition of technical and scientific films
- preparation of conferences and meetings to change experiences
- other activities related to scientific and technical dissemination.

7. Issue and printing of informative publications

This consists of styles and techniques of writing, mechanical and typographical composition, graphic works, collating and preparation of the original draft.

This also includes processes of printing and preparation of copies of documents in microfilms.

All that was said before refers to the issue and printing of informative publications of a scientific and technical nature, i.e. publications for economic and technical reports, and information reviews, bibliographic publications of summaries, indexes, briefs and others.

8. Issue and printing of primary publications

This consists of works of issue and printing of books, leaflets, reviews, and other material that register the immediate results of work of technical and scientific investigations which are drafted by the organ of scientific and technical information.

These 8 functions that we have defined above constitute the conceptual basis for the specific planning of the activity. Each unit of scientific and technical information according to its classification into the system realises one or various aspects of this function and plans the necessary resources for its implementation.

The financing of these units is obtained from the national budget and the funds are assigned for the total amount of the project.

In Cuba, the scientific and technical information is a service rendered free of charge to the enterprises, institutions and to different specialists. However, all this is under scrutiny and might really need some changes in the future.

For a developing country, it is vital to depend on a system of scientific and technical information, which permits it to be up-to-date with the advances in science and technology in the world and could opt for the lines of development that are more convenient to its interest.

In our country, we are living in a very dynamic stage of scientific and technical development but we consider that this is possible because our people have total control of the economy.

No agricultural labourer has preoccupation for the introduction of the combines in the sugar field or the introduction of mechanical milking-machines. Our labourers in the ports do not have to strike each time for the introduction of a more intensive manner of mechanization of the handling of loads; our labourers in the construction field are the first to accept the utilization of new techniques in this field; and similarly, we could speak of all branches of our economy.

This is possible only in a Socialist Country where fear of unemployment and exploitation of the man by man are questions that do not exist for our youth.

Thank you for your attention.

INFORMATION NEEDS OF CARIBBEAN POLICY-MAKERS
IN THE FIELD OF SCIENCE AND TECHNOLOGY

Prepared by
Ken S. Julien
Chairman, National Advisory Council
Trinidad and Tobago

INFORMATION NEEDS OF CARIBBEAN POLICYMAKERS
IN THE FIELD OF SCIENCE AND TECHNOLOGY

by Dr. Ken S. Julien

Science, as the means of understanding the natural environment and technology as the means of controlling and exploiting it, is essential to the efforts to increase production - particularly in the developing countries.

Agriculture, industry, commerce, health, education - all elements in the social and economic development - whatever the ideological posture of the Government of the country, whatever is the model chosen for development - these elements require the application of science and technology. The real problem of development, as a former Secretary-General of the U.N. said - is more than how to accelerate growth - it is more than how to increase production or improve efficiencies - it is how to increase the capacity to produce. This capacity is ultimately interest in people.

Attitudes, training, equipment, knowledge and a desire for more knowledge are the ingredients necessary to ensure the rapid increase of this capacity.

In viewing the status of science and technology in the Caribbean, certain characteristics stand out. Certainly, Trinidad and Tobago and I imagine small Caribbean countries have recognised deficiencies in this regard. The Prime Minister of Trinidad and Tobago recently summarized these as follows:

- absence of a policy for technology related to national objectives;
- a complete lack of co-ordination of the national effort in technology;
- the growing tendency towards individual effort of both persons and organizations;

- the proliferation of new institutions, new advisory groups, councils, committees, etc.;
- lack of relationships between the education plan and national needs;
- lack of coherent plan for education oriented towards technology;
- absence of an environment that places science and technology in its proper perspective;
- a continuing and increasing dependence on imported technology with all the worst features of the traffic in technology;
- limited initiatives in research and development;
- complete neglect by local business of research and development. It hardly ever appears as a legitimate cost in local operations;
- the brain drain;
- an almost static picture in the level of technology;
- a growing deterioration in the level of technology in certain areas - e.g. road maintenance and production of certain agricultural crops - in which there was originally a reasonable level in indigenous technology.

To these I would add an additional feature which underlines all these characteristics:

- a relatively poor level of scientific and technological services (S.T.S.)

This, as you are aware, includes:

- scientific library and information services;
- scientific testing and standards services;
- museums, zoological and botanical gardens;
- geological, geophysical, meteorological and natural resources, mapping, etc.;
- general purpose social and economic data collection;
- consultancy and extension services;
- patent offices and related activities.

The point of view which I wish to project, is that priority in the emerging countries should be given to this area - improvement of S.T.S. ahead of research and development. Accepting that they both now exist at a relatively low level, and there are limited resources to be allocated to them, my own choice would be to dedicate, in the earlier stages, greater resources to the improvement of the level of S.T.S. rather than to R and D.

I support this view on the following grounds. Firstly, the capacity to produce - true development - has grown in the industrialized countries through a slow and natural process, providing the appropriate qualitative social change. Accompanying this natural process, was a growing awareness that the natural environment can be understood and exploited to the benefit of man. With this awareness, came a growth of skills necessary for such exploitation. This process, slow and natural in the developed countries, must be accelerated in emerging countries. The key to such acceleration is the rapid improvement of S.T.S. There is no point experimenting and providing an intensive research effort in, say, vacuum electronic tube devices, when the technology of semi-conductors have made such devices obsolete. I would go further and say that R and D activities in the emerging countries in semi-conductors would be quite pointless. What is needed is a rapid improvement of the availability of information in electronics and a continuing updating of the state of the art. I regard this step as a prerequisite to any effort in R and D.

Secondly, the improvement of S.T.S. makes less demands on national budget and therefore could be more easily accommodated within the spending of energy countries. The competition for the use of national funds - health, housing, education, transport, etc., is so great that in spite of all the goodwill and lip-service, when the political decision-making meeting comes into force, science and technology - particularly as it relates to R and D support invariably receives low priority. It is expensive - regarded as luxury - foreign and expendable. Support for S.T.S. can be more easily obtained as it is less expensive and more easily identified with social aspirations.

Thirdly, S.T.S. provides an easier involvement for the general public. The image of an R and D institution, the image even of a University - an ivory tower with remote professional research workers, aloof and unaware of the problems that are important to the man in the street, still persists. We have had our institutions over many years and yet, I doubt if all but a small percentage of the population know of their existence, much less of their activities. Library services, services that provide information have always been accepted as part of our existence with a much closer and friendlier image. This should be taken full advantage of by the planners and decision-makers who are seeking to change attitudes towards science and technology.

There are several other reasons which are convincing enough to support my general thesis that initially, emerging countries should concentrate on the rapid building-up of its S.T.S. capability to be followed by the establishment of R and D insitititons.

There is one other concept that I wish to put forward for consideration. Even in the context of S.T.S., development of the various elements is viewed separately. A separate programme for library services, a distinct programme for information services; museums, zoological and botanical gardens are treated quite separately; social and economic data are treated elsewhere.

I would like to suggest that the emerging countries have an opportunity to develop an entirely different model relating to the provision of S.T.S.

This proposed model will be structured on an integrated approach to the development of all S.T.S. services. Library and technical information services; museums, zoological and botanical gardens should be planned as a total integrated package.

This model could visualize the development of library and technical information services to be closely associated with the rest of S.T.S. services and in particular, the development of museums, zoological and botanical gardens, scientific exhibitions and other efforts that are directed towards the development of science and technology in the particular country.

In such an integrated system, it would become natural and easy for the student or researcher or even the plain citizen to relate what he reads in a library or any other centres that provide information with what he would see at a museum or some other exhibition. A network should be created which ties the written word with visual displays and possibly even the spoken word so far as it is related to science and technology. We in the emerging countries have an extremely difficult task ahead of us. I have a special responsibility to the University in teaching the new students, introducing them to electrical engineering, and in spite of the advantages made in the teaching of scientific subjects at the secondary schools, these students, bright as they are, start off at a tremendous disadvantage through lack of exposure to 'popular' technical information that is commonplace in the metropolitan countries. Whether it is in the field of the more recent advances in semi-conductor theory, whether it is in the field of computers or telecommunications, the flow of information and the exposure to these systems, sub-systems and individual devices which are taken for granted in the metropolitan countries, do not exist or exist in very small amounts in our part of the world. Any development in library and documentation centres will have a much greater effect if these are tied within the total S.T.S. system.

I recognize that the opportunities for doing this may vary from country to country. In Trinidad and Tobago for example, I feel that those of you involved in this element or any element of S.T.S. would do well to consider this suggestion within the context of the recently published White Paper on science and technology. An opportunity may be there to develop such a model in which extension services, documentation, scientific exhibitions, rehabilitation of our museums and our zoological and botanical gardens could be viewed and blended into an integrated approach as I have outlined. Perhaps, it is an area in which the United Nations could bring its own influence and expertise to bear.

In all of this, I have not made much emphasis on the real objective of the conference which if I were to understand the aide-memoire is more concerned with the possible establishment of a Caribbean Documentation Centre. This should not be interpreted to mean that I have no interest in

such a centre. I feel, however, that these proposals, as attractive as they are, face serious difficulties in getting the real attention that they deserve. In an attempt to develop the ideal and perhaps well conceived approach of co-operation within the Caribbean in documentation and the collection of information, our resources could be spread too thinly and the net results may not be truly significant. I feel that one possible strategy would be to ensure the strengthening of existing institutions within the region and through their individual strengths strive to achieve the ultimate objective, that is having a network within the Caribbean that could be effective and useful in our economic development.

In that regard, I would like to make one other suggestion, namely, that in the same way I have described the possible integrated development relating to national efforts, an integrated approach could be considered for regional efforts. For example, one country could develop real in-depth and up-to-date information on say sugar, while another concentrates say on marine life. These individual efforts which would form part of the total national integrated effort, could form a Caribbean network with the same objectives in mind, i.e. in addition to supporting the efforts of scientists, technologists, policy-makers, they would bring science and technology to the lives of our people. For some time to come science and technology will continue to dominate our lives, our day-to-day activities and our work and our play. Science and technology must be made to come alive in our countries. The mystery that surrounds this development and its application must be eliminated. The tendency to feel that science and technology is a God-given gift to metropolitan countries must also be eliminated. I feel that, more than any other group, professionals involved in S.T.S., have the most practical opportunity, both individually and collectively, to contribute to this effort.

30.11.77.

A FRAMEWORK FOR CARIBBEAN REGIONAL
CO-ORDINATION IN INFORMATION SERVICES

Prepared by
Alma Jordan
Librarian
University of the West Indies
Trinidad and Tobago

A FRAMEWORK FOR CARIBBEAN REGIONAL
CO-ORDINATION IN INFORMATION SERVICES

by Alma Jordan

These are challenging and exciting times for all of us in the information business. There are so many new possibilities with computer-assisted systems, networks of many kinds and techniques multiplying, and yet we in the region with few exceptions seem to be on the fringe of it all, and in some cases not even that.

Why should this be so and what can we do about it? Plans emerging from this meeting should answer the latter but there are many parts to the first answers. We are less-developed countries, lacking in financial resources and the technological sophistication to maintain some of these systems.... there are language barriers to regionalism and so on.

But before we go too far in this direction it is well to be precise about just what we are really trying to do for whom, when we talk about information systems in general or a Caribbean Information System in particular. The issue is easily clouded by the very diversity of what is possible and what is happening in the developed world. We must be in agreement on what we are attempting to co-ordinate if a framework is to be sought for such co-ordination and co-operation.

Definitions

Many definitions of information have been attempted by librarians, documentalists and others in speaking or writing on information services. I do not wish to add to these definitions at this stage. There is, however, another slant to them. The distinctions which have sometimes been drawn between libraries, information services and documentation centres or between librarianship, information science and documentation, the European use of "informatics" and the more recent development of the phrase "information systems" have only served to compound the problem. This is not the forum for elaborating on these seeming conflicts in the information business. Let it suffice to say that in the Caribbean context, we are concerned with the whole gamut of information provision in all forms and at all levels in the society - information as a "tangible commercial commodity or resource" as the basis of an

"informed society" in all fields - cultural, scientific and technological. The National Commission on Libraries and Information Science in the United States puts this all very aptly, in my view, as follows:

"...information is created, stored, processed and distributed by a vast array of diverse information activities in the private and public sectors...

...using widely varying technologies to achieve equally widely varying objectives. The publishing industry, indexing and abstracting and other access services, the communications media, and private and public information services are just a few of the many and varied elements that make up the rich mosaic of the contemporary information scene."....

"...The right information provided when it is needed, where it is needed, and in the form in which it is needed, improves the ability of an individual, a business, a government agency, or some other kind of organization, to make informed decisions and achieve particular goals.

Users are individuals, each with unique informational, educational, psychological, and social needs. A person may need "practical knowledge" to further his continuing education. Or there may be a need for 'intellectual knowledge', the kind that furthers his understanding of the arts, humanities and sciences and which enriches the individual's personal life. Reading for pleasure, pursuing an innovative idea, or exploring knowledge just to satisfy one's innate curiosity, are other valid motives for reading, listening or looking. In addition, people feel the need for ethical, religious and philosophical insights.

Organizations, like individuals, need information and knowledge. Business organizations need facts and data to forecast a market, develop a new product, or adapt a new technology. Schools need information to improve and extend the learning process. Research organizations need information to synthesize new data with known facts as part of the creative process. Government needs information at every level to formulate plans, refine decision-making, and help government workers to anticipate and resolve problems."

We must be consciously anxious to avoid the chaos of too-diverse approaches to this general and broad area of information science provision, while recognizing the many facets of this topic and the several components of the information transfer chain. In the spirit of UNESCO's NATIS and UNISIST programme combination we must relate these discussions to the whole complex of subjects and types and levels of information, channels and forms

of presentation - information about sources and information itself.

Structure Proposals

Mrs. Primus' paper has very ably outlined a general direction for information system development in the region.

At this stage therefore, I propose to deal with this possible regional framework for co-ordination of information systems and services in relation to the objectives of such an exercise and the potential contribution of various regional organizations including the CDCC. I want to deal with this under four related headings:

- 1) The objectives of this meeting and of the proposal to co-ordinate our information systems regionally as well as nationally.
- 2) Prerequisites for successful regional co-ordination.
- 3) Variables to be considered and possible unknown factors which could stand in the way of such co-operation.
- 4) A possible framework and how it might function.

Objectives

The origins of this Meeting have already been outlined in the context of CDCC Governments agreement. Its objectives are seen as:

- a) identifying users' needs in the CDCC countries and indicating an order of main priorities;
- b) finalizing the scope and role of the Caribbean Documentation Centre at the CDCC in the context of these needs, but most of all it seems that this meeting can be seen as having a third broad and major objective as partly stated by Mr. Mohammed in the opening session;
- c) attempting to arrive at a structured mechanism for four basic functions as follows:
 - i. regional research and planning in the field of information as a whole. Research on users' needs including the need for user training.
 - ii. assessment or evaluation and review of existing information facilities on a continuing basis with a view to improvement;

- iii. regional promotion of information system development through national information policies and their implementation;
- iv. co-ordination of national information services in the pursuit of CDCC's mission and mandate from the governments for which it provides a direct channel for joint action.

There seems little doubt of the need for the first two objectives.

Users' needs have been identified in some areas but much more remains to be done in this area in my view, since there is such a wide range of subject needs to cover and levels of need. It is here therefore that we are necessarily selective in the meeting, taking priority areas of concern - information for policy-makers - into focus. We need now to set up response mechanisms to meet the information needs which have been discussed and to set about identifying many more through research programmes and through the CDCC's existing Councils.

The role of the Documentation Centre in relation to priority user's needs identified would not pose problems if these needs were narrow in scope and readily served in a narrow organizational framework. The fact, however, that these needs already range over several areas identified by the governments for priority action defies a simple centre approach in response and imposes the need for co-ordination of wide-ranging facilities and services throughout the region. This is why a structural mechanism for co-ordination must be sought to make this CDCC goal and mission possible without attempting an unduly wide scope for its own Documentation Centre. It is for this reason that the third objective is one of major significance in my view. Without a regional information structure, the major mission of the CDCC would be foiled for it would lack the machinery for two-way information flows in many areas of concern.

How then can this co-ordination role be effected and what obstacles must be overcome?

Prerequisites

In the information field there are at least three basic prerequisites for an ideal concept of regional co-operation and co-ordination.

These are:

- 1) National information system planning (NATIS) and well formulated national information policies. To attempt full co-ordination at a regional level, national co-ordinated systems should exist. Mrs. Primus has dealt with this ideal for under-pinning the regional structure she proposed.
- 2) Official commitment to these national information policies which translate them from paper into action with suitable financial support and implementation strategies for special problem areas, for example, multiple small libraries duplicating services to similar subject groups.
- 3) A spirit of understanding of the wider implications of national systems and policies in the Caribbean context, and willingness to co-operate in viewing these, not solely in their national settings for objectives but in regional terms for regional benefit.

It is not for me to venture into how these prerequisites can currently be met on the regional scene, but it is no doubt significant that some of the major centres which seem readily identifiable as potential regional co-ordinating centres in specific subject areas are located in regional institutions rather than national ones.

Variables

What are some of the variables with which a regional co-ordinating framework must reckon? Certainly, the diversity of existing co-operative projects and proposals with full regional potential or at least regional overtones is a major factor of this kind. Fortunately, some of these are already coming together and this should not be an insurmountable problem, given the understanding and willingness to co-operate to which I have referred. Service proposals like DOERS of the Institute of Social and Economic Research (ISER), and DEVSIS the international system into which it might fit are directly related to the CDCC's own Documentation Centre, and happily this meeting, at which all three interests are represented, is itself evidence of pooling of thoughts and co-ordination of efforts in a common cause.

Similarly, the number of potential co-ordinating agencies and organizations each with some existing efforts in the direction of

regional co-ordination of information services is a hazardous factor which we must somehow strive to shape into an asset. Governmental organizations such as CARICOM and CDCC with their different scopes, international organizations like CLADES of ECLA, professional associations such as ACURIL and COMLA, and even the existing Caribbean Regional Library (formerly that of the Caribbean Commission), all have pos

Varying national programmes and techniques could also conceivably affect the co-ordination of regional information systems adversely as could language and other similar differences in cultural ties and applications. These therefore are some of the factors which are to be borne in mind in conceptualizing a working frame for regional information networks and systems.

Organizational Framework

In these circumstances, what structure is most likely to ensure the fullest potential for pursuit of the objectives outlined, the satisfaction of these prerequisites and the surmounting of some of the difficulties which might otherwise cloud co-operative horizons? It would seem logical that an organization which represents the governments themselves at the widest possible Caribbean level is the one most likely to succeed in co-ordinating information services regionally, while at the same time promoting national information system growth through the commitment of the several governments themselves to such an agreed regional programme, framed as it should be in direct relation to national development plans.

The CDCC is the one organization with this breadth of scope in the region. It should be able to command the widest co-operation from other governmental, semi-governmental and non-governmental bodies acting in the information field, enlisting their support and including their representatives in a well-structured regional advisory body. The CDCC already has Councils on Science and Technology and Social and Economic Development.

It is now proposed that the field of Information Services be added. Proposals which have been made for co-ordination from to time include:

- 1) A CARICOM Secretariat location for an office to promote and service regional library development with an advisory Council of Librarians. This was

in a paper on planning at a SALALM meeting here at the Hilton in 1973. A similar suggestion came from the NATIS Workshcp in Jamaica in 1975.

- 2) A CDCC location for a similar co-ordinating Secretariat and a Council of Librarians combined with Researchers, at the meeting sponsored by ISER earlier this year on Research and Documentation for the Development Sciences.

Thirdly, we have had Mrs. Primus' proposal now in her paper for a Congress of Librarians and Documentalists, advisory to the CDCC. This latter is the most extensive proposal so far and is accompanied by two organization charts. I support this proposal fully. Thinking on it independently, I arrived at much the same kind of structure.

If we can dream a little of a Caribbean regional ideal built from ideal national bases, what would we provide?

National Level Organization

At the national level:

- a) National Library and information systems with National Advisory Councils on Library and information services including Archives.

These systems would include, well-defined groups of special and research libraries serving as national resource centres in special subject fields, complementing the main national library which would concentrate on the national literature and related bibliographic and exchange functions. We would envisage networking between special libraries and documentation centres nationally for full coverage and satisfaction of user's needs in special subject areas with direct channels of communication with regional co-ordination centres to supplement them by providing back-up services.

We would build around existing public libraries an integrated network of services to reach all sectors of the population including special types of service for those handicapped or otherwise in need of separate treatment. A School Library Service network would be an essential component of the system.

A State Library or National Information Planning Office could be seen as the focal point for planning and research at the national level with co-ordinating functions concentrated here; in the Jamaican pattern this responsibility is given to a section of the National Library. This Office would serve as the Secretariat for the National Advisory Council in each case. Smaller territories will telescope and combine many of these functions as necessary, for example, the public and the school libraries could be one network, and the national library and State library Office could be combined there.

Regional Level Organization

There would be a two-pronged approach at the regional level. The first approach would be a functional one but it would be built into the structure, while the second approach is mainly structural.

At the regional level, co-ordinating centres would be envisaged for the several subject groups for which national resource centres exist. These regional centres would have a crucial and dynamic role to play. Among their functions would be:

- 1) training of specialist personnel as mentioned by Mrs. Primus. In addition to those she mentions in her paper I would identify:-
- 2) advisory and consultant services for other subject libraries in the chain throughout the defined region (which may be geographically or language based);
- 3) current awareness and SDI services on a selective regional basis;
- 4) dissemination of information of other kinds - accessions lists, special bibliographies, research in progress information, etc.;
- 5) special bibliographic and reference services, for example, answering difficult enquiries, preparation of the regional input to international data systems, data base searches on behalf of small national centres;
- 6) preparing and maintaining special information data bases;

- 7) co-ordinating at the regional level, referral of enquiries, inter-lending, photocopying and other resource sharing activities;
- 8) acting as the focal point regionally for international links.

If we apply this concept to a field such as agriculture, we arrive at a regional network built up from national mini-systems, the agriculture libraries in a given territory being co-ordinated at that level to form a system which would relate to the regional co-ordinating centre through a national focal point:

The second regional approach would tie in the national information systems described as the first part of this ideal with this second functional and regional approach. It consists of a Council or Congress of Librarians and Documentalists as proposed in Mrs. Primus' paper. The Congress would include representatives of both, and be advisory to the CDCC on its total programme in the information field.

The CDCC's co-ordinating function would draw on advice from the Congress of Librarians and Documentalists to pursue the objectives outlined for its co-ordination role. It would be especially well-placed to seek and channel aid for funding information service development projects.

What subject areas should be so co-ordinated? Priority areas from country statements and from the CDCC Work Programme should logically come first but broader subject groups in some cases, narrower in others will be necessary. Engineering as a whole, for example, with Transport taken under this umbrella. Similarly, Medicine as a whole, with Public Health subsumed, but in the Social Sciences, Statistics and Population for example, might well warrant individual concentration.

Regional Centres could logically serve as the national focal points in their own territories. Some of these centres will select themselves in effect by the range of services already offered and their capability in delivering regional services. ISER's DOERS proposal, its potential relationship to DEVSIS as well as its location in a regional institution and the University of the West Indies at St. Augustine and its links with AGRINTER and AGRIS in the field of Agriculture, for example, seem logical points.

In the short-term then it would seem that the CDCC should:

- 1) Take first steps towards co-ordination of existing information units and services as identified in the CLADES inventory for countries within its ambit. This would make it possible to determine the most important areas for its own documentation centre activities and to draw on other facilities in the region.
- 2) Set up the Congress of Librarians and Documentalists for advice in drawing up a phased plan of regional action based on the different stages of development in member countries and directed towards the functions identified earlier and such others as may be deemed necessary - research and planning for information needs; evaluation of information services; Promotion most of all and Co-ordination seem to belong to this first phase.

In the medium-term it should seem to implement those areas of the plan identified for a second phase. These might well include many of the same activities in the short-term plan at a more advanced stage in each case. Where the infrastructure does not exist it takes time, money and people to build. The different stages of say Haiti or Santo Domingo and Jamaica will require plans of an entirely different nature.

After conferences of this kind we all look forward to the follow-up stages which do not always materialize. This time I do not think that we will be disappointed. Thank you.

CONCEPTION OF THE NATIONAL SYSTEM
FOR SCIENTIFIC AND TECHNICAL INFORMATION
OF THE REPUBLIC OF CUBA

Prepared by
Lazaro Perez Tapanes
Director-General of Scientific and
Technical Information of the State
Committee of Science and Technology
Cuba

CONCEPTION OF THE NATIONAL SYSTEM
FOR SCIENTIFIC AND TECHNICAL INFORMATION
FORMATION OF THE REPUBLIC OF CUBA

By Lazaro Perez Tampanes

Fundamental Objectives:

The National System for Scientific and Technical Information (SNICT) is an internal part of the system of directions of the national economy and it operates as a sub-system within the system of direction for Science and Technology.

The fundamental objective of the National System for Scientific and Technological Information (SNICT) is to satisfy the increasing demands of all categories of users in the country. It contributes to the acceleration of the pace of Technical and Scientific progress to put rapidly into practice the achievements of Science and Technology as well as innovative experiences in the production and the continuing education of professionals, leaders and workers in general.

Principal Functions of the System

The system must ensure:

- The collection, systematization and analytical and synthetic transformation of Scientific and Technological information coming from nationals or foreign sources.
- The organization of an information and reference data base to facilitate the retrieval and dissemination of information.
- The preparation of informative publications and their distribution to individual and collective users of all categories.
- Services of information and reference.
- The inter-change of information among the components of the system and their closer inter-relationship aiming at the achievement of horizontal and vertical complementarity.

- The dissemination of the achievements in the fields of Science, Technology and experiences of production which are more relevant through the mass-media and other means.

Organizational Structure of the National System for Scientific and Technological Information (SNICT)

- a) Creative Organ - The State Committee for Science and Technology fulfils this role and has as its principal function the task of directing, controlling and improving the System.
- b) State Organs - They guide the sub-system on Scientific and Methodological areas taking into account the different types of documents (e.g. norms, patents, translations etc.) and they provide informative services in their respective sub-systems.
- c) Branch Organs - They are responsible for the methodological guidance of one or several branches and they provide an informative service in an integral manner in their specific subject area (e.g. sub-system for agriculture and forestry, sub-system for construction, etc.).
- d) Multisectoral Territorial Organs - They are responsible for the constant supply of integrated information (all types of services) to the collective and individual users within the territory they cover (provinces) in their specific subject area and within the frame with the socio-economic profile of the province.
- e) Base-line Bureaux or Organs - These ensure the supply of information to users from the firm or institution to which they belong (factory, research centre, agricultural farm, etc.).

Fundamental Principles of the Functioning of the National System

- The system combines the elements of centralization and decentralization. It centralizes at determined levels and analytical/synthetic transformation of information of a scientific/technological nature throughout the world and the preparation, editing and printing of informative publications.
- It decentralizes at determined levels, the analytical/synthetic transformation at the national level of Scientific and Technological Information.

- It unifies the stocks of the information organs with the specialized libraries into unique stocks of information and reference which encompass all the types of documents.
- It utilizes a system of co-ordinated search language comprising:
 - The universal decimal classification
 - The international classification of Patents
 - The standard classification of normalized documents
 - Subject matter classifiers (markers)
 - Languages of a descriptive type and/or key words
 - Introduction of the most modern technical media in the information process
 - Organizational, linguistic, mathematical and technical compatibility
 - The system ought to implement the necessary mechanisms in co-ordination with the corresponding organs in order to ensure the training and retraining of the workers necessary for the system, at the university level as well as middle order technicians and the education of users
 - Also it will elaborate the research plans considered to be opportune which will ensure the continuous improvement of the system

International Relationships of the System

Cuba is a member of the international system of Scientific and Technological Information for the Member Countries of COMECON of the International Federation of Documentation, it being an integral member of its Council, and it participates in the UNESCO's general programme of information of which Inter-governmental Council it forms a part. Besides, it maintains relations with other international agencies and bilateral relations with other countries.

