Caribbean Development and Co-operation Committee

THE CARIBBEAN REGION

ECONOMIC COMMISSION FOR LATIN AMERICA
Sub-regional Headquarters for the Caribbean

CARIBBEAN DEVELOPMENT AND CO-OPERATION COMMITTEE

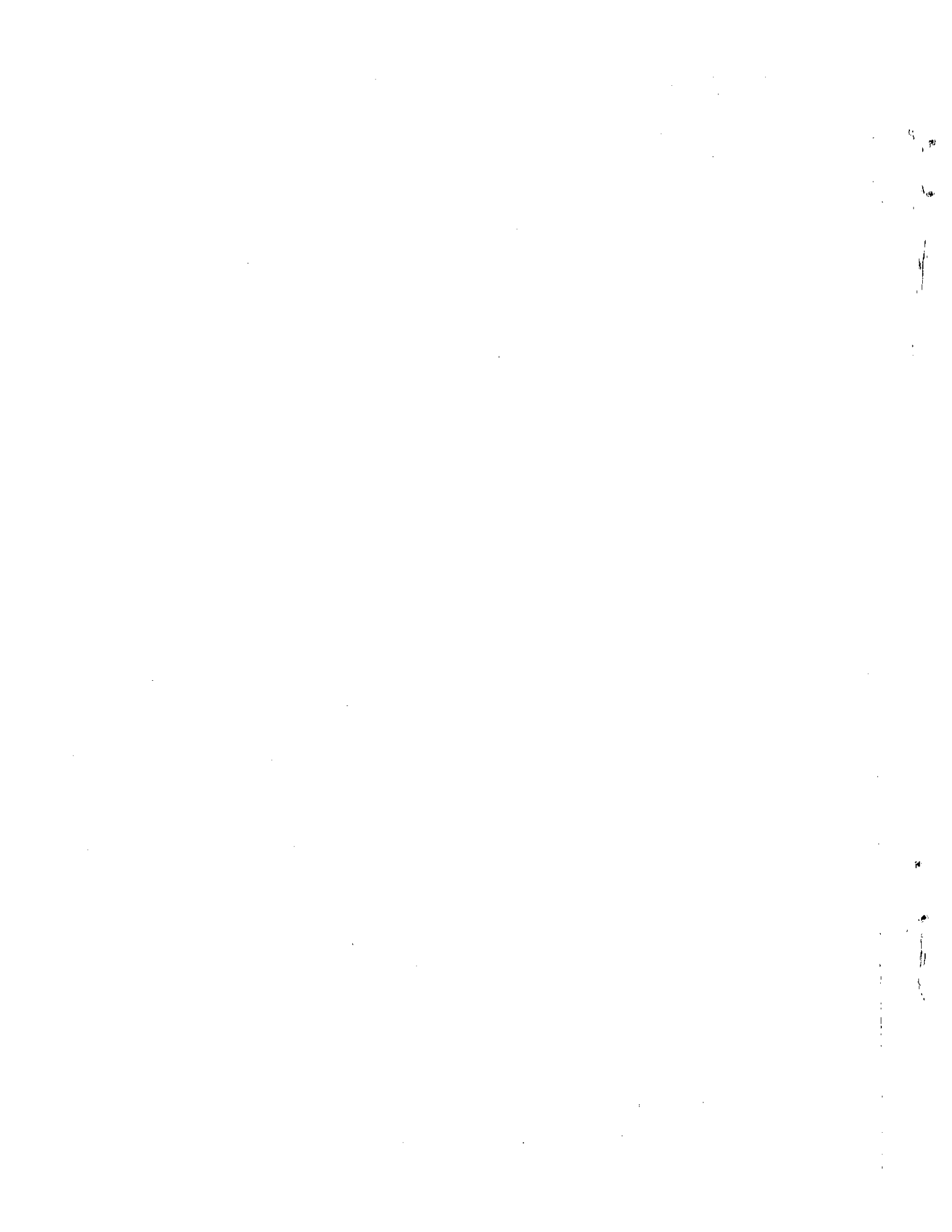Sixth Session
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ACTIONS ON CDCC

RESOLUTIONS ADOPTED

AT FIFTH SESSION

UNITED NATIONS

ECONOMIC COMMISSION FOR LATIN AMERICA Office for the Caribbean

ACTION ON CDCC RESOLUTIONS ADOPTED AT THE FIFTH SESSION

I

ACQUISITION OF COMPUTER FACILITIES

The Resolution 6(V) "Acquisition of Computer Facilities" adopted at the Fifth Session of the CDCC at Kingston, Jamaica in 1980, was predicated on the importance of information for the economic and social development of CDCC Member States and the need to store and rapidly disseminate information. It referred to decisions taken at earlier sessions that the Secretariat be provided with computer facilities to accommodate both the Statistical Data Bank and the needs of the Caribbean Documentation Centre; and recognized that after two years, the CEPAL Office for the Caribbean was still without these facilities.

The decision was that the CDCC Secretariat should make the relevant arrangements in order to contract an expert to carry out studies on existing technical problems, and to determine whether the needs could be met by a computer made in a country of the CDCC region. This decision was taken against the background of information that CEPAL believed it could carry out the studies within existing resources.[1]

In consonance with the terms of the resolution, missions were carried out during May 1981 by the Chief of the Computer Division at Santiago, and a Cuban expert. The reports of these two experts have been received by the Office, and are attached as Annex. It became apparent that there were two different sets of circumstances surrounding the acquisition of computer hardware to satisfy the needs of the Documentation Centre and the Statistical Data Bank. The decision was taken to temporarily solve the Statistical Data Bank needs of the Office within the constraints of the CEPAL Budget, by the acquisition of a mini-computer and adequate software. This machine has been ordered and will be put into place shortly. This machine, however, is not adequate for servicing the needs of the Documentation Centre; but it can be used as a terminal to any larger machine that may be acquired.

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[1] Para 202 of Document E/CEPAL/CDCC/68/Rev.2 - Report on the Fifth Session of the CDCC.

Separate recommendations for meeting the needs of the Documentation Centre are contained in the report of the Cuban computer expert. Follow-up on this to determine the specific technical and budgetary implications has been retarded because of travel budget constraints. The Secretariat is still to receive quotations on: – the equipment, including display screens, printer; maintenance; software; and also specifics concerning discs, magnetic tapes, voltage stabilizers, temperature/humidity control. These are necessary for budget formulation. To date there is no budget provision.

In this connection it will be recalled too that the International Development Research Centre of Canada (IDRC) had offered to consider providing assistance with the cost of a small computer capable of handling the needs of the Documentation Centre. The IDRC is assessing the situation and a report is expected in November 1981.

II

STRENGTHENING THE CDCC SECRETARIAT

The Resolution 7(V) "Strengthening the CDCC Secretariat" was adopted at the Fifth Session (Kingston, 4-10 June 1980) on the conclusion by the Committee that the CEPAL Office for the Caribbean needs to be endowed with sufficient flexibility and authority to meet the requirements of development and co-operation in the sub-region.

The recommendations in the resolution were inter alia that the Office "...become the CEPAL Sub-regional Headquarters for the Caribbean in order to enable it to be more adequately equipped and financed to respond more efficiently to the needs of the Committee"; be empowered to receive and administer funds in accordance with pertinent UN regulations, recruit consultants, convene Ad Hoc Group of Experts, and provide assistance in co-ordination with Specialized UN Agencies; and that the Executive Secretary bring these decisions to the attention of ECOSOC with a view to obtaining additional budgetary resources.

Acting on this CDCC resolution, the decisions were brought to the attention of ECOSOC in statement by the Executive Secretary,[2/] and the draft resolution E/1980/C.1/L.14/Rev.1 tabled by the Governments[3/] was adopted. In addition action was taken by the Executive Secretary delegating additional authority to the Office for the Caribbean, together with which special instructions were prepared for the guidance of the Director of the Office, consistent with the additional authority delegated.

The additional authority covered aspects of Programming/Operations, administration, and wide discretion in substantive activities. The gradual introduction of machinery for executing these delegated authorities commenced in October 1980 and are still in process of development.

The Supplementary Budget sought in 1980 for facilitating CDCC activities in 1981, were approved by the UN ACABQ, the Fifth Committee and the General Assembly,[4/] making it possible for the CDCC Secretariat to carry out the additional programme that has been achieved since January 1981.

Related to these developments was the report on the ECLA Office at Port of Spain prepared by the UN Joint Inspection Unit,[5/] which is among the documentation presently before the United Nations General Assembly,[6/] together with the Comments of the UN Secretary General.[7/] Copies of the Report were transmitted to all Governments on 11 March 1981 at the request of the Acting Executive Secretary of the UN Joint Inspection Unit, and in addition it was tabled at CEPAL Nineteenth Session (Montevideo 4-15 May 1981) together with the Secretary General's comments.

The Secretariat recommends that the contents of those documents be fully taken into account in the further considerations on Strengthening of the CDCC Secretariat.
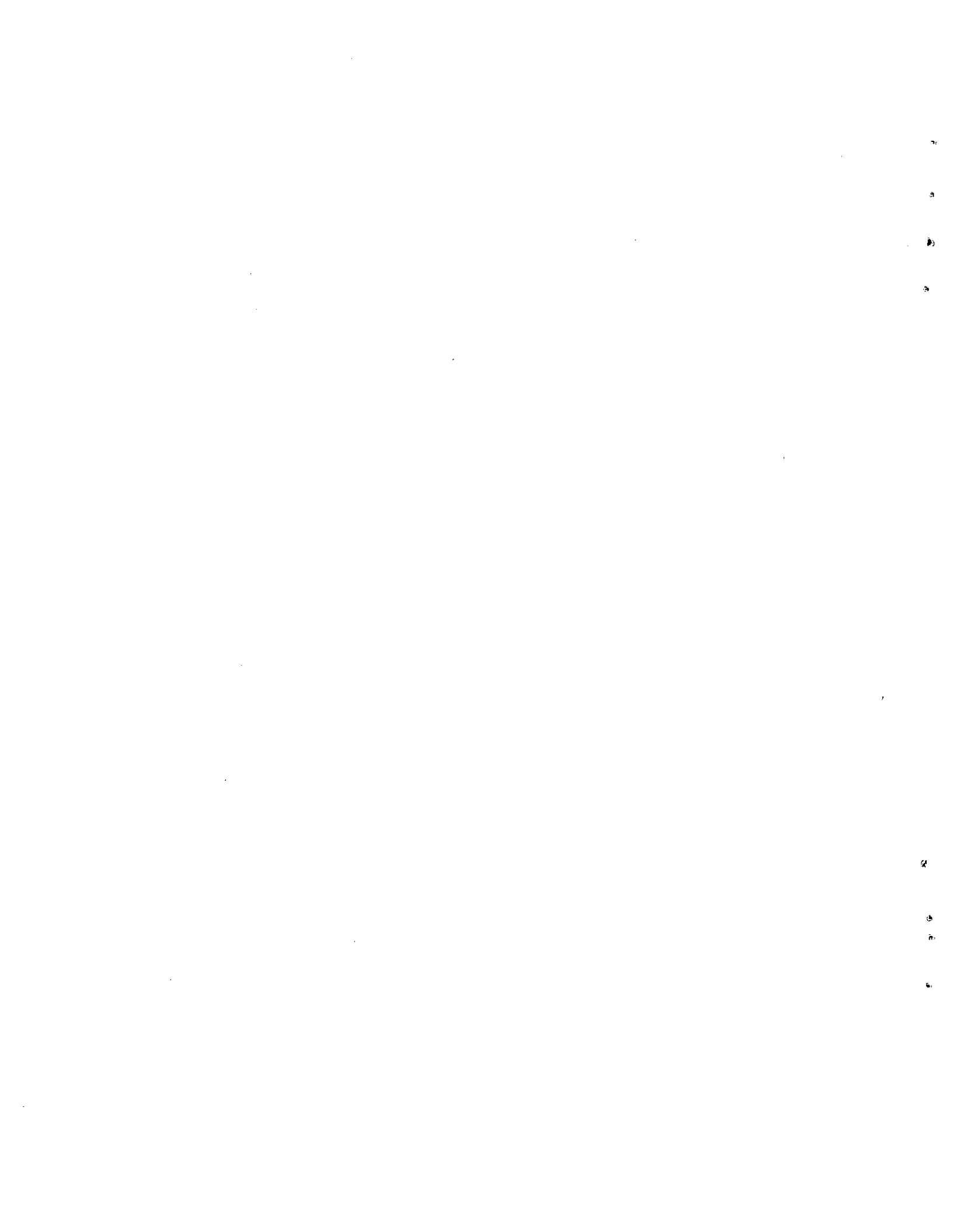

2/ E/1980/SR35.

3/ Bahamas, Barbados, Cuba, Jamaica, Trinidad + Tobago.

4/ A/35/7/Add.16 and A/C.5/35/23/Add.1.

5/ JIU/REP/30/13 - Report on the sub-regional offices for Central America and Panama and for the Caribbean of the Economic Commission for Latin America.

6/ A/36/102

7/ A/36/102/Add.1.

Computer facilities at Port of Spain

Experts' Reports

The situation at Port of Spain with regard to IBM computers capable of ISIS processing has not changed significantly. All the new 4300 systems that IBM had expected to install in the near future (from last May) had yet to be installed. The first of the new models, a 4341 with 2 mega-bytes of memory was scheduled to be installed at CARONI the week of my trip.

From meetings with technicians from IBM, the conclusion was that the only big system which could conceivably be made available for CEPAL's usage was a 4341 tentatively scheduled for 4th quarter installation at TELCO. This system would have the right communications hardware (3705 front-end) and operating system (VM) and would initially, at least, have a great deal of computational power available because of the upgrade from their present small equipment. Additionally, if anybody can get communications lines installed, it ought to be TELCO. The difficulty was that they had not yet finalised contractual arrangements with IBM; therefore an approach could not be made to the TELCO computer manager.

Other 4300 scheduled for installation are the Central Bank, which is likely unavailable because of security reasons, TEXACO, which runs software from the home office, T+TEC, and IBM. IBM would be a likely candidate (but expensive) except for the local decision that they will not put terminals connected to their machine in customer's offices.

The only existing telecommunications efforts were the airline reservation lines used by Eastern and the BWIA headquarters' computing center. T+TEC had run an experimental line with their own wires on TELCO poles, but there were no other efforts being managed by local technicians that came to light. This has unfortunate implications for putting IBM terminals in CEPAL's Office, since it is never pleasant being a pioneer.

DEC has a local office, and is doing a good business. They would be a good choice except for two factors: a DEC system will not solve the ISIS problems without extensive software development at Santiago, and the minimum single-user system is about US$25,000, the minimum multi-user system is about US$50,000, both far beyond present budgetary resources.

All the evidence suggests there is absolutely no possibility that Hewlett-Packard will ever be maintaining Series 3000 minicomputers in Port of Spain. To attempt to maintain the equipment by CEPAL personnel with assistance from H-P in Caracas would require an estimated US$50,000 investment in local spares and instruments, plus about US$2,000 per month in technician time and at least a P-4 level computer manager in the Office.

There is at Port of Spain a vendor of Radio Shack equipment and it seems that they are adequately preparing to service the Model II equipment, in terms of both technicians and spares. There were at least eight of these units already in the country, with more scheduled in this calendar year. The quoted prices for preventative maintenance services seemed too high, but the on-call service prices are affordable. The Radio Shack Model II, with floppy discs, and a matrix printer, could be a start on a solution of the problems with statistical data in the Port of Spain Office.

The consensus was against waiting any longer trying to find a total solution that includes ISIS facilities, but that we should proceed with at least the beginning of assistance to the Statistical Data Bank.

With the TMAKER software package used extensively in Santiago the Statistician will be able to enter the Statistical Tables for the region into machine-readable form, and update the tables each year without having to re-enter the previous data. The calculations can be performed by the machine and checked against the totals in the source document to verify the accuracy of the keying. The data management techniques developed in CEPAL Buenos Aires Office may be of useful assistance in the organization and cataloguing of these data files.

The world-processing ability of this machine will also provide needed facilities to the Statistician and others in the Office. Additionally, there are small mailing-label packages available that should also be of assistance. If it is desired it would be possible to put the COCENTS statistical tabulation

package on this machine; the software work necessary for this task could be done on the Santiago microcomputers. Without in-house backup equipment this machine should not be used for time-critical administrative applications.

It should be emphasized that what is discussed here is only a beginning to the computerization problems of the Port of Spain Office. This machine is neither rapid nor a multi-user system. Presently there is not direct data compatibility with the equipment in Santiago. This machine could be used as an intelligent terminal to any more capable equipment that may be decided for the Port of Spain Office, such as the Cuban machine that has been discussed. If we wished to change equipment in Port of Spain, it would be useful and maintainable in Santiago. It is very similar in character to and compatible at the program level with the microcomputers already in use for several diverse purposes, including TMAKER.

A requisition is being prepared for this equipment, the cost of the hardware and software being estimated at US$10,000 for the Radio Shack Model II, a DEC LA-120 DECWRITER III serial matrix printer (180 characters per second), and the CP/M operating system, TMAKER, and a text-editor package. Financing can be achieved half from the Santiago Budget and the other half from the Port of Spain budget. A maintenance reserve of US$120 per month should be adequate for this equipment, including preventative maintenance on the DECWRITER III from the DEC Office in Port of Spain. The equipment should not require any special environmental considerations other than a clean location and a (relatively) sound-proof location for the printer, which can be quite noisy. There will be some supply expenses for floppy disks, ribbons and paper, but this should be controllable. An initial stock of 100 floppy disks and a disk storage cabinet should be about US$900 additional.

It is recommended that installation of the equipment and the software be managed under Santiago supervision with assistance from the local vendor if necessary.

If it is wished at a future time an additional Model II unit could be added, at about US$4,000, to be used for entry of ISIS material. An identical unit could be procured for Santiago to facilitate reading the diskettes prepared by Port of Spain and transmitting the material to the DEC system and then via a tape to the ISIS system. These systems would have only one disk and no printer. This Radio Shack unit would also be of value in CEPAL/ Santiago for existing tasks. It could be located in Administration for use on the budget tasks currently being done with TMAKER, or it could be used in CLADES or DOCPAL as a data-entry terminal using the same software as in Port of Spain. Such an acquisition might be discussed further with IDRC; and was mentioned in conversation in Ottawa later in May.

COMPUTER SYSTEM FOR

THE CARIBBEAN DEVELOPMENT

AND CO-OPERATION COMMITTEE

Prepared by:

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Expert in Computer Technology

1 July 1981

1.   INTRODUCTION

In order to meet the request of the CDCC for a feasibility study on the introduction of a computerized system - preferably from the Caribbean area - in its Headquarters in Port of Spain, Sr. Carlos Peláez Abín, a Cuban expert, visited Port of Spain last May.

A feasibility study usually requires a minimum of 10 to 15 days; however, for a number of reasons, the stay in Port of Spain was limited to a day and a half, during which time interviews were held with Mr. Hewitt, the Chief of the Computer Centre of CEPAL (Chile), Mr. Busby and Mrs. Primus, in charge of statistics and documentation respectively.

The needs of the CDCC, certain organizational matters, the present state of the main tasks and offers received from other suppliers were exposed during the interviews.

There was a free exchange of ideas on various aspects of the problem.

This document sets out the main objectives of the CDCC, conclusions and relative recommendations.

11.   Main Objectives of the CDCC

The main objectives of the CDCC are computerization of the Documentation Centre and Statistical activities through the creation, operation, maintenance and examination of the data bases.

Their specific characteristics may lead to two separate sub-systems: the information or documentary sub-system and the statistical sub-system.

III.   Restrictions and/or requirements of the CDCC

The CDCC has pointed out certain restrictions and/or requirements of the computer system.

-      Low cost of the equipment.

-      Security of operation, since there are energy sensitive variations

-      Introduction and examination of data bases preferably on-line and in no case using non-magnetic aids (paper tape and punched cards).

- Use of the S.P.S.S. or B.M.D.P. System

- Compatibility with other information systems.

- Linkage of the statistical data base to the S.P.S.S.

- Output of listings on special forms to be used directly in the reproducing equipment. - A.B. Dick.

- Use of the ISIS System developed by the IDRC in Canada for an HP-3000, since financial assistance is based on the use of this system.

- Low cost and sound technical servicing.

IV.   Previous Analysis

The CDCC has examined two possible suppliers, (neither in the Caribbean region) Hewlett-Packard and DEC.

IV.1   HEWLETT-PACKARD

The HP-3000 Series II of Hewlett-Packard is a computer support equipment for the ISIS System which was developed at IDRC in Canada.

It is not known whether the SPSS System is available in this type of equipment.

A system with 256 Kb and bulk disks costs more than 250 thousand dollars.

IV.2   DEC

DEC has equipment similar to the HP-3000 with prices also ranging around 200-250 thousand dollars.

DEC equipment support the SPSS which may be rented.

The ISIS system is not available and approximately 2 man years are needed for its development.

Note: The above-mentioned prices do not include the cost of adaptation of premises, false floor, false ceiling, specialized equipment to suit the climate, voltage stabilizers etc. which would raise the cost by several thousand dollars. None of the possibilities covers all the requirements of the CDCC although they have more than sufficient computer capacity.

Technical servicing outside of the warranty period is an important
feature which must be considered.

V.   Sub-Systems to be implemented

V.1   Information Sub-System

This is a typical information search and retrieval system.

In fact the ISIS System in operation at CEPAL in Chile
has been used and for some months now information has been fed
into that System.

The distance of the Documentation Centre from the
Computer Centre has a negative effect on the access time for the
results.

The volume of information to be maintained in the base
has not been determined, however for the size of the Documentation
Centre one envisages a small system.

The transfer to other computer equipment must be
considered carefully especially the problems of compatibility of
support systems. The use of magnetic tapes is indispensable for
this operation although it may be achieved through a third
computer system which would reduce the cost of the equipment to
the CDCC.

The system must provide a directory of users(about 500)
to whom documentation is sent.

The abstract of documents held in the base ranges between
1000 and 2000 characters.

Another sub-system to be included is the "Caribbean
Catalogue" issued by the CDCC office and for which no abstract
is prepared.

V.2   Statistical Sub-System

This sub-system requires storage of statistical data,
mainly in the form of time series.

Although up to the present time it has not been possible,
it is the intention to use the SPSS linked to the statistical

data base. This solution has not yet been implemented in any of the minicomputers analysed, although the SPSS is available as an independent unit, requiring large memory (between 180 and 220 Kb).

It has not been possible to determine the volume of data and there is no certainty in fixing its size by periods.

The exchange of information with other U.N. systems is envisaged.

The periodicity of statistical reports is at present annual with the view to moving to trimestrial or monthly ones.

This sub-system is intended to be operated as a data base.

This sub-system is the most complex and the one which is most resource consuming.

V1   Conclusions.

1.   The installation of a 256 Kb memory unit with bulk disks, is a solution which technically presents no limitations but economically is a costly investment not only in its initial outlay but also in terms of its fixed monthly maintenance and operating expenses.

2.   The information sub-system may be implemented in a more economical configuration without major changes in its objectives.

3.   The statistical sub-system, as outlined, requires a configuration of 256 Kb to use the SPSS system although that capacity would be under utilized for a considerable period if there is not sufficient processing to load the equipment. The supplier will have to develop additional software.

4.   The creation of the documentary data base is a slow process which may take on an average one to two years. During this time the interrogation of the data bases will be incomplete and computer capacity used will be limited especially if equipment such as those mentioned above is used.

Load time may be reduced if more personnel and equipment are available in the process of acquisition and entry of data and these would increase expenses.

5.   The entry of statistical data is more complex than documentary processes since information arrives at the Computer Centre in bulk and not spread over time and this calls for a larger number of operators

during these "peak" periods.

On the other hand this information must be checked
and corrected until it is free of errors. These checks may be made by
check-sums, and generally require the intervention of other personnel.

It is not possible to indicate the personnel
required for the sub-system while it depends on the volume and periodicity
of information to be processed. Nevertheless, the waste of manpower is
significantly more than in the documentary sub-system.

The reliability of a computer system must be
taken into account so that whenever possible it is best to have two small
units instead of a single large one. This is indispensable in cases
where the systems cannot afford to be down for a long time, and where
there is considerable distance between the Computer Centre and the
organization providing maintenance services or where there are other
conditions that delay the arrival of the technicians.

VII   Recommendations

1.   Considering the economic constraints of the CDCC
and the difficulties related to the installation, operation and
development of a Computer Centre, we recommend that the introduction of
computer techniques be staggered starting with the information sub-system.

2.   Bearing in mind the proposal to choose equipment
preferably produced in the Caribbean - and aware that Cuba produces
minicomputer CID-300/10 with the adequate capacity for the proposed
objectives of the CDCC, it is appropriate to request an official offer
from Consumimport. This offer should respond to the need of the
information sub-system supplying a retrieval system similar to that of
ISIS. The retrieval system should be supplied simultaneously with the
operationalization of the Computer Centre.

3.   It is recommended that the same supplier be
responsible for the adaptation of premises, installation of climatizing
equipment and voltage stabilizers etc., all of which would make it

possible to sign a contract for twin:key facilities which would be more convenient to the user, the CDCC in this case.

4.   The computerization of the statistical sub-system should be postponed until the volume of data is known and the necessary personnel identified to operate the sub-system and the CDCC has the economic resources necessary.

5.   The minimum personnel required to operate the information sub-system is the following:

>   2 console operators (one will be permanently employed in inputting data into the base at the rate of 600 to 700 documents monthly and the other may be interrogating the data base.

6.   Once the necessary operating experience is acquired and the requirements of the statistical sub-system are known it may be possible to introduce a second system as a support to the first and for carrying out the functions of the sub-system.

This sub-system, in addition to improving system reliability, will be more economic than a system based on one piece of equipment of 256 Kb.