

**RESTRICTED**

**CDCC/CCST/84/7**

**13 September 1984**

**ORIGINAL: ENGLISH**

**ECONOMIC COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN  
Subregional Headquarters for the Caribbean**

**CARIBBEAN DEVELOPMENT AND CO-OPERATION COMMITTEE**

**CARIBBEAN COUNCIL FOR SCIENCE AND TECHNOLOGY**

**Fourth Plenary Session  
St. John's, Antigua  
17-19 September 1984**

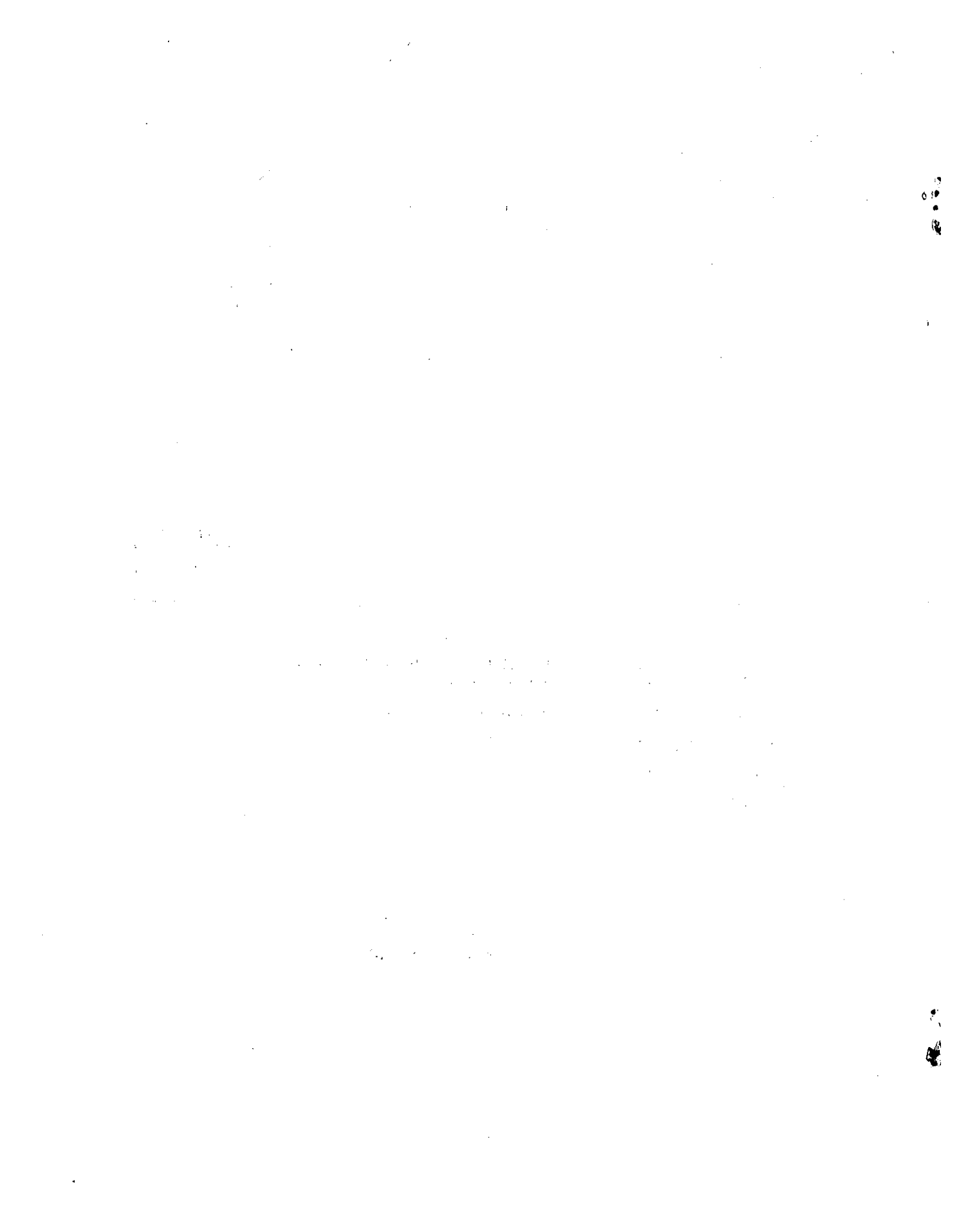


**THE THIRD ANNUAL REPORT  
OF THE  
CARIBBEAN COUNCIL FOR SCIENCE AND TECHNOLOGY**



**UNITED NATIONS**

**ECONOMIC COMMISSION FOR LATIN AMERICA Office for the Caribbean**



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This Third Annual Report describes the activities of the CCST from the Third Plenary Session, 27-29 July 1983 to August 1984.

Officers of the Council 1983-1984

Following the principle of equitable geographic distribution, the following officers were elected for the year:

Chairman: (Grenada) - Dr. James de Vere Pitt  
Vice-chairman: (Haiti) - Mr. Jacques Lorthé, replaced by  
Mr. Gilbert Duperval  
Member: (Jamaica) - Dr. M.O. Hamilton

The above officers together with Mr. Iwan Kortram of Suriname (Honorary Treasurer for three years) comprised the Executive Committee.

Membership

During the period under review, there were no new members of the CCST. The Government of Antigua and Barbuda, however, has notified the Secretariat that it has decided to become a member of the CCST. Formal deposit of the Instruments of Ratification is awaited. The membership of the CCST therefore remains:

Belize	Haiti
Cuba	Jamaica
Dominica	Saint Lucia
Grenada	St. Vincent and the Grenadines
Guyana	Suriname
Trinidad and Tobago	

Funding

The lack of payment by many CCST member countries of their annually assessed contributions (US\$8,000 for MDC's and US\$2,000 for LDC's) has adversely affected the work of the Council. Members of the Council are therefore asked to do their utmost to ensure that all contributions are brought up to date at the earliest possible time.

### Secretariat

The activities of the Secretariat were constrained by an inability to fill the post of Science and Technology Officer on a full time basis from September 1983 to the present time.

The Economic Commission for Latin America and the Caribbean (ECLAC) Subregional Headquarters for the Caribbean continues to supply interim secretariat services. The Council therefore wishes to record sincere appreciation to ECLAC for providing these services.

### Meetings of the Council

The Fifth Executive Committee Meeting of the Council held in Port of Spain Trinidad on 15-16 March 1984, under the chairmanship of Grenada - Dr. James de Vere Pitt.

### Science and Technology Policy Formulation

The CCST Secretariat spearheaded the formulation of a Science and Technology Policy and Plan for the region. The CARICOM Ministerial Sub-committee on Science and Technology requested the CCST Secretariat to co-ordinate the preparation of such a document, the draft of which is presented to this Plenary Session for its consideration and comments. This is the first initiative of its kind in the Caribbean at a regional level.

This activity is consistent with the CCST project on the formulation of a regional science and technology policy, and is in keeping with the recommendations made at the Seventh Session of the CDCC in 1983, that with respect to policy formulation, CCST should work in close collaboration with the CARICOM Ministers responsible for Science and Technology.

### Consultation on CASTALAC II

The CCST was asked by UNESCO to convene a consultation of regional officials involved in science and technology matters for the Second Conference of Ministers for Science and Technology in Latin America and the Caribbean (CASTALAC II).

This consultation will take place in Trinidad from 5-7 November 1984.

Publications

1. Minutes of the Third Plenary Session of the CCST, 27-29 July 1983.
2. Minutes of the Fourth Executive Committee Meeting, 25 July 1983.
3. Report of the Second Inter-Agency Meeting, 26 July 1983.
4. An Analysis of Science and Technology Projects/Programmes supported by Agencies in the Region, presented to a Meeting of the Interim Co-ordinating Committee on Science and Technology, Bridgetown, Barbados, 31 August-2 September 1983.
5. Report of the Workshop on "Agricultural Research Policy and Management in the Caribbean", 26-30 September 1983, (produced by Agriculture Unit, ECLAC).
6. "Opportunities for regional collaboration in dealing with problems arising from the impact of new technologies in Caribbean countries", a paper read at Workshop of UNIDO/CARIRI on Technology Transfer, Management and Development and the Implications of Newly-emerging Technologies, 8-10 November 1983.
7. Present State and Trends in Science and Technology Policies in the Caribbean - CCST. Prepared for CASTALAC II.
8. Interim Report on Conservation and Exchange of Germplasm of Crop Plants.
9. Minutes of the Fifth Executive Committee Meeting, 15-16 March 1984.

Meetings at which the Council was represented

The Council was represented at the following meetings/workshops:

1. CARICOM Meeting of the Interim Co-ordinating Committee for Science and Technology (Barbados, 31 August-2 September 1983);
2. UNIDO/Government of Trinidad and Tobago sponsored Seminar/Workshop on "Technology Transfer, Management and Development" (Trinidad and Tobago, 8-10 November 1983);
3. IDRC/ISER sponsored Research and Policy Workshop on Technology Problems for the Caribbean (Jamaica, 13 November-10 December 1983);
4. First Meeting of the CARICOM Ministerial Sub-committee for Science and Technology (Antigua and Barbuda, 4 May 1984).

5. Commonwealth Science Council/Scientific Research Centre sponsored Workshop on Evaluation of Research and Development and Science Management (Jamaica, 21-25 May 1984);
6. Eighth Session of the Caribbean Development and Co-operation Committee (CDCC), (Haiti, 6-12 June 1984).

### Work Programme

At the Third Plenary Session (1983) the Work Programme for 1983-84 was approved. This work programme included progress to be continued on eight projects as well as on the various Specialized Committees and Working Groups.

Progress on each project and Specialized Committee/Working Group is given in the following.

### ASSESSMENT OF SCIENCE AND TECHNOLOGY CAPABILITIES

#### Objectives

To obtain information on the quality and quantity of personnel involved in Science and Technology activities at a national level and their deployment within the national framework for development.

#### Progress since August 1983

The Research Assistant (Science and Technology) under the sponsorship of the Caribbean Development Bank (CDB) visited Antigua to assist Antigua and Barbuda in carrying out their survey of Science and Technology capabilities. The information retrieved is being collated and analysed by that country and when completed, will be forwarded to the Secretariat.

Information obtained from the survey conducted in Montserrat has been collated and will soon be published. Preliminary information obtained from Saint Lucia has been collated.

Completed questionnaires from Barbados were forwarded to the Secretariat for analysis, which will be done as soon as possible.

ESTABLISHMENT OF A SCIENCE AND TECHNOLOGY JOURNAL

Objectives

- (i) To bring the activities of the CCST to the attention of scientists, technologists, policy-makers and planners in the region;
- (ii) To share knowledge of new and significant information in the area of:
  - (a) technical processes appropriate to countries in the region.
  - (b) projects in progress; and
  - (c) research results relevant to the development of the science and technology capability of the region.

Progress since August 1983

At a meeting of the Editorial Board held in Jamaica in May 1984, the following decisions were taken:

1. The CCST Journal is to be produced on an irregular basis with an initial target of not more than two issues per year;
2. This publication is to be aimed at a mass Caribbean audience and not specifically at the scientific community;
3. The first issue would include inter alia:
  - (a) a general review of CCST initiatives;
  - (b) at least three articles on some specific Science and Technology activities in a representative cross-section of CCST member countries;
4. Specific extrabudgetary funding is needed for this activity.

PREPARATION AND EXCHANGE OF AUDIO-VISUAL MATERIAL  
FOR EDUCATION IN SCIENCE AND TECHNOLOGY

Objectives

To sensitize students, teachers, decision-makers and the general public about the pivotal role which Science and Technology performs in present day society.

Action since August 1983

Meetings were held with the Project leader and a proposal was formulated for a film on Food Technology (Annex 1), to be undertaken as soon as possible. The meetings with the project leader also dealt with a project proposal for a Workshop on Science Writing and Communications. This workshop is being jointly organized by the Committee on Science and Technology in Developing Countries (COSTED) and is planned for October 1984 in Curaçao. It may have to be postponed, pending funding arrangements. The workshop outline is presented in Annex 2.

A questionnaire for the evaluation of the science and technology films produced by the CCST was prepared. This questionnaire will accompany all films sent out by the CCST and will serve to improve the quality of the material to be produced in the future.

A data sheet for information on audio-visual material has also been produced. This will serve to collect information on all science and technology films produced in the region and on access to this material. It is intended that the information collected will be compiled into a bank/register of films.

The CCST was represented at the 15th Annual General Meeting of Caribbean Broadcaster's Union held in Aruba from 15-16 June 1984. The CCST was present at the meeting in relation to:

- (a) distribution of the two CCST television programmes;
- (b) establishment of a bank/register of films on Science and Technology to encourage exchange of videotaped material; and
- (c) the Science Writing and Communications Workshop jointly sponsored by COSTED and CCST.

As agreed at the Fifth Executive Committee Meeting, two booklets have been prepared to accompany the completed CCST films. It is intended that all subsequent CCST films will be accompanied by such booklets.

The dubbing of the CCST films on blank cassettes has been done and all CCST members are urged to obtain at least one copy for use in their home country.



CONSERVATION AND EXCHANGE OF GERMLASM  
OF CROP PLANTS

Objectives

To assist regional centres with the identification, exchange, conservation and storage of genetic material from indigenous, as well as introduced, crop plants.

Progress since August 1983

As a result of a grant from the Commonwealth Foundation, a consultant was recruited to initiate work on this project. His report is contained in document CDCC/CCST/84/4.

One of the recommendations of his report was that a plant breeder should be recruited to determine which food and forest crop varieties are threatened in countries of the Caribbean sub-region. To this end, a plant breeder has been recruited and will make visits to various Caribbean countries in order to:

- (a) determine endangered germplasm of crop varieties;
- (b) determine the most suitable conservation methods for the particular crop varieties and recommend appropriate mechanisms for such conservation; and
- (c) advise on protocol for exchange of germplasm and on collaboration amongst national and regional institutions.

The consultant is then expected to prepare and submit a report to the CCST interim Secretariat.

THE POTENTIAL AND LIMITATIONS OF NEWLY-EMERGING  
TECHNOLOGIES FOR DEVELOPING COUNTRIES

Objectives

(i) To create an awareness of the implications of Newly-Emerging Technologies among senior officials and decision-makers in regional governments and institutions;

(ii) To identify and implement the type of practical action which would be most effective for the beneficial utilization of these technologies.

Progress since August 1983

The Secretariat is preparing a document highlighting some implications of new technologies for Caribbean development. This document when completed will be circulated to all member countries for initial comment.

A SCIENCE AND TECHNOLOGY POLICY FOR THE CARIBBEAN

Objective

To formulate a cohesive regional policy on science and technology which will harmonise the priorities and present capabilities of individual member countries.

Progress since August 1983

The CCST Secretariat, at the request of the CARICOM Ministerial Sub-committee on Science and Technology has co-ordinated the preparation of a Science and Technology Policy and Plan for the region. This document is presented to the meeting for preliminary consideration and comments.

SPECIALIZED COMMITTEES/WORKING GROUPS

Agricultural Research

A Workshop on Agricultural Research Policy and Management was held in Trinidad and Tobago from 26-30 September 1983. This workshop was initiated by the CCST and carried out by the Agriculture Unit of ECLAC. It was organized with the support of International Service for National Agricultural Research (ISNAR), Swedish Agency for Research Co-operation among Developing Countries (SAREC), International Development Research Centre of Canada (IDRC), Commonwealth Foundation, Inter-American Institute for Co-operation on Agriculture (IICA), Government of Trinidad and Tobago and the University of the West Indies, and was made possible by grants totalling US\$ 40,000.

The CCST expresses its appreciation to these agencies and organisations for their generous support which made the Workshop the success that it was.

One of the recommendations of this meeting was the establishment of a Working Group of Directors of Agricultural Research to prepare a project document for a proposed Caribbean Co-operative Agricultural Network. The CDCC Secretariat is co-ordinating this follow-up activity.

A report of this Workshop is contained in document E/CEPAL/CDCC/107 and can be obtained from ECLAC, Port-of-Spain.

#### Health, Nutrition and Pharmaceuticals

A meeting of the specialized committee is planned for 25 October in Havana, Cuba, after a Workshop on the Pharmaceutical Sector in the Caribbean. An Aide-memoire for this Workshop is given as Annex 3.

FILM ON FOOD TECHNOLOGY IN THE CARIBBEAN

The proposed film on Food Technology in the Caribbean will be directed at three target groups:

1. the ordinary man-in-the-street (for information on the basic food technology processes);
2. potential small-business people; and
3. government planners.

The film will:

- (a) present an overview of the Caribbean food technology scenario;
- (b) highlight developments in the region; and
- (c) suggest possible areas of development.

It will be necessary to have both a food technologist as an adviser as well as a scriptwriter working on the production of this film.

It is hoped to use material from other parts of the Caribbean so travel will be necessary.

<u>Estimated Cost</u>	<u>US \$</u>
Air travel for 4 persons	2,400.
Perdiems for 10 days	5,000.
Audio-visual cassettes	2,000.
Incidentals (telex, telephone, postage, etc.)	500.
Scriptwriter's fee	1,000.
Food Technologist's fee	500.
	<u>11,400.</u>

PROPOSAL FOR A WORKSHOP

"SCIENCE WRITING AND COMMUNICATION"

1. INTRODUCTION

The COSTED Regional Secretariat with the sponsorship of the Caribbean Council for Science and Technology (CCST) has formulated a proposal to initiate the improved use of the different methods of communication available to scientists and educators to create a better informed public.

If the countries of the region are to develop their resources both human and physical, it is essential to improve the present level of scientific and technological awareness. The existence of knowledge in itself is not enough. An awareness of that knowledge and of the scientific skills and ability presently existing in the countries of the region is necessary to ensure that decision-makers and the general public come to internalise Science and Technology information as part of their decision-making processes and indeed as part of their culture. To initiate this, those concerned with research and development and education must be involved in the transfer of information to the same extent and with the same attitude as they accept responsibility for the selection and acquisition of knowledge.

Scientists and educators need to be sensitised to their responsibility - as agents of development - for bringing their knowledge of Science and Technology into the realm of public awareness. They need further to make themselves aware of the skills required and the technologies available to them for accomplishing that task.

The ability of the general public to understand and use technology will depend on how effectively scientists, technologists and educators communicate.

A Regional Workshop is proposed on Science Writing and Communication. The Programme of the Workshop will introduce the

participants to communications theory and the available technology as well as the commercial media and regional perspectives. The participants will be given an opportunity to make hands-on attempts to convey a given message using an available technology and to evaluate the end-product. At the end of the Workshop the participants will better understand the communications process and the need to "make the medium the message".

In addition, the Workshop will identify follow-up programmes or linkages with existing or proposed programmes which will form a body of on-going activity to achieve the objective of improved awareness of Science and Technology in the region.

## 2. OBJECTIVES AND SCOPE OF THE WORKSHOP

The broad objective of the Workshop will be to sensitize and organize scientists, science educators and media production staff for the improved use of available communications technology in increasing the general understanding and public awareness of Science and Technology.

The Workshop will focus on:

- (a) An examination of Science Writing and Popularization in the Caribbean;
- (b) The available communications technology;
- (c) Communications Theory;
- (d) Delineation of the process for identifying target audiences and selecting the appropriate methods of communication for these audiences;
- (e) Hands-on sessions to allow participants a better understanding of the use of available communications technology;
- (f) Identification of follow-up activity for specific audiences and programmes to improve the awareness of these audiences to the role of Science and Technology in their lives.

3. VENUE

Curaçao - Dutch West Indies.

4. DATE

October 1984.

5. PARTICIPANTS

It is expected that attendees will be the staff members from Information Units where the focus is on communication of Scientific Information, scientists from organisations with an interest in or a need to convey a scientific message to the general public, educators - either science teachers or adult educators, who must ensure that they are effective communicators, and media staff responsible for programme production.

6. FOLLOW-UP ACTIVITIES

Participants will be expected to formulate specific follow-up programmes within a general framework of on-going regional activity in Science Writing and Science Popularization linked to such programmes as:

- (1) The Distance Learning Project at the University of the West Indies;
- (2) Programmes aimed specifically at the media science writers as conducted by CARIMAC; and
- (3) The project proposed on Science and Technology Popularisation (SATPOS) by the Government of the Republic of Trinidad and Tobago.

Possible examples:

- (a) A project for science popularization at the primary school level, i.e., the development of primary school science teaching aids based on locally available materials; identifying the medium to be used and participants, e.g., development of the "SAPATT" (Science - A Process Approach for Trinidad and Tobago) programmes;

- (b) Examination and analysis of the cost/benefits of creating greater scientific awareness in the general public and the development of the skills for preparation of indigenous materials for communication of Science and Technology for presentation to the Regional Meeting of Ministers responsible for Science and Technology in November 1984 to be held in Dominica.



WORKSHOP ON THE PHARMACEUTICAL SECTOR  
IN THE CARIBBEAN

AIDE-MEMOIRE

BACKGROUND

The Caribbean sub-region spends millions of dollars in foreign exchange annually on the importation of pharmaceuticals. There is an urgent need for co-operation in the region in the interest of optimizing regional resources concerned with this vital sector.

The First Plenary Session of the Caribbean Council for Science and Technology (CCST) held in Barbados in 1981, established a number of Specialized Committees/Working Groups - one of which was in the area of Health. The name of this Committee/Working Group was later expanded to that of Health, Nutrition and Pharmaceuticals, and member Governments were requested to identify nationals who would serve on the proposed specialized Committee/Working Group.

The Government of Cuba has accepted the Chairmanship of this Committee and has offered to host a Workshop on the Pharmaceutical Sector in the Caribbean.

OBJECTIVES

The Seminar/Workshop will:

1. Establish a relationship between policy and research activities in the Pharmaceutical Sector;
2. Identify the major components of integrated national and regional pharmaceutical policies;
3. Outline priority areas for development consistent with regional and national needs;
4. Familiarize decision-makers and technocrats with pharmaceutical technologies and outline strategies for the transfer and development of such technologies in the region;

5. Determine manpower needs and formulate a scheme to meet the immediate and long-term needs in the region;
6. Outline areas for technical co-operation among member countries;
7. Prepare suitable technical assistance programmes for individual member countries and regional institutions.

#### ORGANIZATION

The Seminar/Workshop will be organized by the CCST in close collaboration with UNCTAD, PAHO/WHO and CARICOM. The programme will be spread over three working days from 22-24 October, with the Working Group meeting on 25 October, and will include a number of lectures delivered by recognized experts in the field of pharmaceuticals as well as a series of panel discussions. These are intended to stimulate round table discussions with involvement of all the participants in a brain-storming session.

The following topics will be presented and discussed:

1. An Overview of the Pharmaceutical Sector in the Caribbean;
2. The Impact of Transnational Corporations on the Pharmaceutical Sector in the Caribbean;
3. The Impact of the International Patent System and Trade Mark Practices on the Economic, Commercial and Technological Developments of the Pharmaceutical Sector in the Caribbean;
4. From Import Dependence to National Production: The Case of Cuba;
5. The Provision of Essential Drugs to meet the Requirements of the Caribbean Population;
6. The Prospects for Strengthening Regional Production and Trade of Pharmaceuticals in the Caribbean;
7. Co-operative Mechanisms for Strengthening National and Regional Technological Capacities in the Pharmaceutical Sector;
8. Identification of Research and Development Priorities in the Caribbean with respect to Pharmaceuticals.

PARTICIPANTS

The Workshop will bring together participants comprising:

1. High-level scientists and decision-makers of member countries together with resource persons of international standing;
2. Representatives of the following organizations:  
CARICOM, PAHO/WHO, UNIDO, UNCTAD, Commonwealth Secretariat, University of the West Indies, University of Guyana;
3. Representatives of various local pharmaceutical corporations in the Caribbean region as observers.

