

CARIB/TNT 83/

Distribution: Res

20 December 1983

ECONOMIC COMMISSION FOR LATIN AMERICA
Subregional Headquarters for the Caribbean



"OPPORTUNITIES FOR REGIONAL COLLABORATION IN DEALING WITH
PROBLEMS ARISING FROM THE IMPACT OF NEW
TECHNOLOGIES IN CARIBBEAN COUNTRIES"

by

C.E. SEAFORTH

presented at the Seminar/Workshop on
"Technology transfer, management and development and
the implications of newly emerging advanced technologies"

8-10 November 1983

Hilton Hotel, Port-of-Spain, Trinidad

Sponsored by the Government of Trinidad and Tobago and the
United Nations Industrial Development Organization (UNIDO)



"OPPORTUNITIES FOR REGIONAL COLLABORATION IN DEALING WITH PROBLEMS ARISING FROM THE IMPACT OF NEW TECHNOLOGIES IN CARIBBEAN COUNTRIES."

by

C.E. SEAFORTH

Technological cooperation is "a vital force for initiating, designing, organizing and permitting cooperation among developing countries so that they can create, acquire, adapt, transfer and pool knowledge and experience for their mutual benefit and for achieving national and collective self-reliance, which are essential for their social and economic development."

(The Buenos Aires Plan of Action 1978 for Promoting and implementing technical cooperation among developing countries (TCDC), embodied in the UN General Assembly Resolution (A/C 2/33/L.34 Rev.1 Par.5).

The CARICOM Ministers responsible for science and technology held their first Meeting on 6-8 April 1983 in Jamaica. There, they commented on the need to increase, at higher decision-making level, the harmonious integration of science and technology (S. and T.) within the over-all strategies for national and regional development.

The fact that they were holding their first meeting underlines the under-developed state of regional collaboration in S. and T. Such collaboration is only just beginning - perhaps because the individual countries are only just getting themselves prepared for actions which lead^{1/} to determination of their policies for science and technology.

The Need for Regional Collaboration

In nearly every Caribbean country there is great need for better and adequate knowledge of the range and potential of available resources, so that rational decisions may be made out of clear, developmental alternatives.

^{1/}

A survey of science and technology activities in Jamaica (1981).

Nearly every island is characterized by its small size, its limited energy resources, its limited markets and rural poverty and, most Caribbean populations are unaware of the importance of science and technological developments in their past and in their futures.^{2/} Few islands can afford a university or a research institute. In fact, the decision-makers and planners still need to demonstrate a commitment to start up and to support research and development directed to the exploitation of their natural resources, especially for agro-industry and the modernization of agriculture, and to strengthen linkages between the research and development activities and the productive sector of their national economies. Each island separately needs the help and the expertise of the other larger islands, and also outside assistance. Every Caribbean country must find solutions to the common overriding problem, that is, the problem of its limited resource capability being called upon to support disproportionately large human populations.

Because economic development in the typical Caribbean island is centred on low level agricultural production on the one hand, and on the other, a mercantile community dependent on foreign expertise, equipment and advice for technology, there is need for a mechanism to interconnect the mercantile, often transnational operations, with at least some of the national technological capability.

Nowadays, assistance coming into the Caribbean region from the more developed countries is likely, more than in previous years, to include applications of the new technologies and the effects of their interactions with traditional and endogenous craft technologies. Applications of biotechnology which can lead to new pest-resistant crops, to strains of Rice requiring no fertiliser treatment, or, to the bioconversion of banana and citrus wastes into Ethanol, are all of intense interest to entrepreneurs, large and small, public and private. Therefore, senior officials and decision-makers at the highest levels in Caribbean states need to get into position to

^{2/} Ventura, A.K. "Environment Technology Assessment and Technology Planning. The case of Caribbean Islands" at a Seminar on Environment, UNEP, 1982. Geneva.

monit. and assess continuously the trends and implications of the new technologies^{3/} under development. Indeed, the strategy and the mechanisms by which this might be achieved have become matters of the highest priority, in harmony with the "early warning system" recommended by the UNCSTD 1979 Vienna Programme of Action.

Some Proposals

Coping mechanisms should be instituted so as to ensure that planners, managers and decision-makers understand very well, and appreciate exactly,

- (a) what the particular new technology can do,
- (b) what it cannot do,
- (c) how it actually performs, and
- (d) what are its limits, under real Caribbean conditions.

(For instance, the microcomputer represents an investment in a capital-intensive, labour-saving device which has to justify itself in competition with other kinds of investment). It may be easy to forecast some of the tangible benefits which these new technologies may bring to small, privileged portions of society. But it is more difficult to assess adequately the wider social effects of the introduction of these new technologies on major sections of Caribbean society. Countries in the region ought to collaborate to deal with this common issue of the social consequences.

Any mechanisms for collaboration which may be suggested must take cognizance of the fact that, in the present financial climate, the creation of additional bureaucracies should be avoided, and whatever supplementary resources may become available should be channelled to support existing institutions that are already performing in the field. It makes no sense to allow one institution to fail because of lack of support, just to create a new institution.

^{3/} For example: An International "Symposium" of the Phytochemical Society of Europe will be held 19-20 December, 1983, in London on "Genetic manipulation in plants and its application to Agriculture".

For example: Studies are in progress to separate out pancreatic Betacells on board the US Space Shuttle - see INFOBRIEF August 1983. The EC Commission Newsletter.

The Caribbean Council for Science and Technology (CCST) was created by Member Governments of UNECLA/CDCC countries by the signing of the Statutes by eleven countries meeting in Kingston, Jamaica on 17 April, 1980. The CCST was created as a unique operational mechanism for enhancing regional cooperation and mutual assistance in S. and T. which will strengthen the thrust for regional self-reliance whilst simultaneously observing the national independence and sovereignty of its Member Countries.

Among the several important assets which may enable the CCST to enhance regional S. and T. collaboration are:

- (i) its Membership, which embraces the wider Caribbean and which can make it the perfect interface between CARICOM and non-CARICOM States
- (ii) its Composition. Each Member Country is entitled to designate two Council Members, one of whom must be a scientist chosen by the respective government from amongst senior officials of national S. and T. Councils. Thus CCST can play an important role by involving non-Governmental Organizations, such as Science Foundations, Professional Associations, etc.

The Council has recognized that effective collaboration and coordination can only be based on information about current S. and T. activities in the region. The CCST therefore commissioned a report on regional S. and T. projects and programmes which are currently supported by the various Agencies. The Report was prepared by Dr. D. Irvine, UNESCO Consultant to the Caribbean in science and technology, and was discussed at the Second Inter-Agency Meeting (Curaçao, Netherlands Antilles 26 July, 1983) organized by the CCST.

As a result of the discussions many of the Agencies represented at the Meeting have become convinced that much more can be done by the Agencies themselves in coordinating their activities, and, this process can be facilitated by the CCST. One particular area for example would be in the formulation of a Regional policy in S. and T. which seeks to harmonize the priorities in S. and T. with the real capabilities in S. and T. of individual Member Countries. The CCST has already taken some initiatives on this subject.

In order to avoid wasteful duplication of effort, it is recommended that the InterAgency Meeting which now forms part of the CCST calendar could be formally institutionalized as the forum in which S. and T. collaboration among the various Agencies can be implemented and strengthened.

The CCST should be given every assistance to allow its ongoing in-house Projects to be completed so that the results can be made available to all governments and organizations as early as possible. Two of those Projects, which have been recognized at the Inter-Agency Meeting in July 1983, are:

- (a) "Assessment of national S. and T. capabilities" - which sets out to obtain information on the quality and quantity of S. and T. personnel as well as their deployment within the national framework for development.
- (b) "Preparation and Exchange of Audio-Visual Material for Education in S. and T." - which aims to sensitize students, teachers, decision-makers and the general public to the pivotal role which S. and T. can perform in present-day Caribbean society, by providing information in a format that can be understood by all levels of users. Two films have already been made, and both have received favourable reviews.

It will be possible to produce educational material for the mass media to increase awareness and understanding in non-scientists about the relevance of the ideas and operations of S. and T. to their actual living conditions and to their economic growth.

Much of CCST's work programme is meant to be guided by Specialist Committees and Working Groups. The Working Group dedicated to the CCST Project described as "The potential and limitations of newly emergent technologies with special reference to developing countries" will be concerned with the outcome of this Seminar/Workshop on "Technology transfer, management and development and the implications of newly emerging advanced

technologies". This Working Group will include the best suited technical expertise available both regionally and internationally to ensure that Member Countries of CCST are kept fully informed of the new developments.^{4/}

It is recommended that the CCST should serve as the Secretariat for a Network of technological institutions and related support organizations in the Region, sharing information and developing expertise, and to provide advice to potential buyers on the price of technology and on the most favourable terms for the acquisition of specific new advanced technologies.

Through the proposed Network, the Universities and Technical Colleges as well as appropriate industrial concerns, through consultation in the Region, would become better able to assess the real needs for manpower trained in the special skills for particular areas of biotechnology, or of micro-electronics, for instance, relevant to the growth of Caribbean societies.

4/

For example: "New frontiers in technology application: Integrating emerging and traditional technologies", edited by E. von Weizsacker, M.S. Swaminathan and A. Lemma. The Proceedings of an ad hoc Panel of the UN Advisory Committee on S. and T. for Development, Los Banos, Laguna, Phillipines, 13-16 December, 1982.



