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UNITED NATIONS CONFERENCE ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT*

Background, objectives and regional implications

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/1. Background

1. Background

In December 1970 the United Nations General Assembly requested[1/] the Secretary-General to prepare a study on the action which should be taken to extend the applications of science and technology in economic and social development, particularly in the relatively less developed countries. It further requested the world Organization to formulate a coherent policy in this field, duly based on the resources and experiences available. The time had come to assign a new role to international cooperation.

In compliance with this request, the Secretary-General prepared a document[2/] which presents some considerations on the development and meaning of scientific and technical activity in present-day society and recalls that as long ago as 1963 the United Nations sponsored the Geneva Conference on the Application of Science and Technology for the Benefit of Less Developed Areas. The report recognizes, however, that this meeting had fairly modest projections, since it did not succeed in establishing an effective system of interaction between multilateral cooperation programmes and the national and regional bodies concerned about technological backwardness. The action taken was confined to the establishment in 1964 of the Advisory Committee on the Application of Science and Technology to Development (ACAST), which played an important role in the diagnosis of problems deriving from unequal technological progress.[3/] Another important step was the establishment of the inter-governmental Committee on Science, Technology and Development (CSTD) in 1971.

It was in this context that the first exploratory investigations concerning the desirability of convening a world conference that would place emphasis on these subjects began to take concrete form. This

1/ See United Nations General Assembly resolution 2658 (XXV).
2/ Role of modern science and technology in the development of nations and the need to strengthen economic and technico-scientific cooperation among States, Report of the Secretary-General (E/5238).
3/ The Advisory Committee established the World Plan of Action for the Application of Science and Technology to Development (New York, 1971), and the respective version for the developing regions. It was assisted in this task by United Nations organs and agencies.

/concern

concern was echoed by the Economic and Social Council,[4/] by ACAST, by the Intergovernmental Group on Transfer of Technology of the United Nations Conference on Trade and Development (UNCTAD), and at specialized meetings convened by the regional commissions.[5/] In the light of these developments, the General Assembly decided, in December 1976, to hold a United Nations Conference on Science and Technology for Development in the second half of 1979.[6/]

There were important considerations underlying this decision. One is the conviction that, in principle, science and technology constitute powerful accelerators of economic and social progress; that the present-day industrial régimes have found in these forces the main determining factors of a qualitative progress which is reflected in constant innovations - and a marked flexibility - in production and institutional patterns; that it is possible to extend and transfer the effects of those forces to what are today peripheral economies, which are absorbing the benefits of technological progress in a modest or unilateral manner.

This is not an ingenuous conviction, however: it recognizes that science and technology involve contradictory and ambivalent elements, and that the transplantation of the scientific-industrial revolution comes up against persistent structural obstacles, both internal and external.

In other words, scientific and technological inadequacy is not an isolated phenomenon but has significant links with other problems of underdevelopment and international economic integration. Hence the fully justified tendency to deal with it at a global level, as in the case of other disequilibria of the same kind already examined at international meetings. Let us recall those on population, the environment, women, food, employment, human settlements and water, among other subjects, which because of their wide-ranging aspects and ramifications have merited the attention of the world Organization.

4/ See resolutions 2028 (LXI) and 2035 (LXI) adopted by ECOSOC in August 1976. The respective texts appear as annexes 1 and 2 to this document.

5/ In Latin America, CEPAL organized the Meeting on Science, Technology and Development in Latin America (Mexico, December 1974), at which the various facets of the subject were examined.

6/ See resolution 31/184, adopted by the General Assembly on 21 December 1976, in annex 3.

/As in

As in those cases, it is likewise necessary in questions of technological disparity to adopt criteria and launch programmes, on broad international bases, with a view to remedying a type of inadequacy that is of crucial importance in development. The Conference therefore takes account of the guidelines set forth in the New International Economic Order,[7/] and aims at crystallizing endeavours which would form the basis for a new development decade.[8/]

Apart from these general considerations, stress has been laid at intergovernmental and expert meetings[9/] on some specific features of scientific and technical development in countries at an incipient stage of industrialization. Whether as an independent factor or through the action of expansive forces emanating from the market and culture, science and technology affect the extent of the physical and social infrastructure, the production apparatus, and the process of the formation of community values to a varying but always appreciable degree. There is, however, a considerable gap between these possibilities of modern technology and its uncertain and somewhat ambiguous effects in the developing nations. Qualitative differences are thus created or intensified within the international community, and could lead to bitter conflict.

The Conference will have to concern itself with these questions: its frame of reference clearly says so.[10/] First, it will have to review general aspects of science, technology and development, with particular attention to the choice and transfer of techniques, the identification and elimination of obstacles hindering the applications of scientific knowledge, and the procedures for integrating processes of structural change. Secondly, it must examine the possible introduction of new forms of international cooperation favouring the exchange of important experience,

7/ See United Nations, Declaration on the Establishment of a New International Economic Order (A/RES/3201-3202) (S-VI), May, 1974.

8/ Resolution 31/184 referred to earlier, anticipates that the results of the Conference will be evaluated at the thirty-fourth session of the General Assembly, which will be responsible for defining the guidelines for international development in the 1980s.

9/ See, for example, Economic and Social Council resolutions 1897 (LVII) and 2028 (LVI), and the Report of the Advisory Committee on the Application of Science and Technology to Development which was presented at the first session of the Committee on Science and Technology for Development, New York, 31 January-11 February 1977, E/C.8/46.

10/ See ECOSOC resolution 2028 (LXI) in annex 1.

/the improvement

the improvement of information and research facilities, and the optimum use of available resources. These discussions must lead, on the one hand, to the definition of a coherent United Nations science and technology policy and, on the other hand, to a re-ordering of the criteria governing the direction, pace and transmission of technological change.

2. Philosophy and objectives

The Advisory Committee on the Application of Science and Technology to Development (ACAST) and the Committee on Science and Technology for Development rightly stated[11/] that the Conference will, *inter alia*, raise two cardinal problems: the validity and the viability of development in the present international scenario, taking into account the potentialities and ambiguity of modern science and technology. These are undoubtedly complex questions which are only just beginning to be understood.

The first subject - validity - covers questions related to the quality and direction of the development thus far obtained. For whom and for what purpose? These are two questions stemming from the inadequate or frustrated development experience generally observed in the last few decades. It would be an over-simplification to say that technology has created an imitative consumer society which, in essence, excludes the broad masses. It certainly tends to crystallize that type of society, but this is because of complex circumstances which technology can either modify or perpetuate.

Then there is the question of viability. Assuming that certain ideas concerning the human quality of development take shape at the national or international level, what are the practical possibilities of attaining such a quality, in view of the concentrative tendencies of technological progress? Should the developing countries pursue the course charted by the advanced societies? If so, how can they obtain the technical knowledge and resources which enabled those societies to accumulate their present

11/ At meetings held in Geneva (22 November-3 December 1976) and New York (31 January-11 February 1977), respectively.

/wealth?

wealth? Does the technological sequence allow some stages to be omitted? If so, what are the requirements involved? Can they be fulfilled?

Furthermore, if this development pattern is not viable, can the course of technical progress be changed so as to promote self-reliance in the low-income economies? In that event, what linkage would there be between this style of development and the fund of knowledge originated under the former style?

These are singularly important issues for the Conference to consider for two reasons. Although the developing countries took no part in the industrial revolutions of the past two centuries, they are aware today of the possibilities offered by such revolutions in overcoming internal and external bottlenecks. Their aim is to promote the broader applications of science and technology by means of international cooperation and the re-ordering of domestic policies. Secondly, the developing countries share the conviction that the United Nations has mechanisms for giving voice to and containing a widespread discontent that is rooted in the particular forms of accumulation and dissemination assumed by science and technology in the present international context.

To postulate a new approach to development in the light of scientific and technical progress is therefore one of the guiding principles of the Conference. This will not be its only aim, however. It also proposes to discuss and adopt decisions concerning new arrangements for the transfer of technology, the promotion of research related to agricultural and industrial development questions, easier access to information, and the improvement of multilateral technical cooperation machinery.

These complex tasks do not brook delay, nor can they be confined to the Conference. There are, in fact, already signs - and in some cases tangible achievements - indicating that a process of analysis and review of accepted practices in fields such as the formation of resources, the production and use of materials, trade, and bilateral and multilateral cooperation procedures is under way. Furthermore,[12/] the Conference is

12/ The Intergovernmental Group of Experts on an International Code of Conduct on Transfer of Technology recently voiced some ideas on the subject. See the Report on its first session, TD/AC.1/4, Geneva, 30 November 1976.

/regarded

regarded as a milestone in an ongoing series of actions linked with efforts at the international level and negotiations between regional groups which should culminate in a new style of development and co-existence among nations.

3. Preparatory activities

Viewed from this standpoint, the Conference will necessarily represent a profound educational experience for the member countries. It will, of course, respect their sovereignty in relation to the guidelines they lay down for national development; but it will also attempt to go beyond diplomatic clichés.[13/] This task calls for very careful preparation.[14/]

In the first place, action must be taken simultaneously at the national, regional and interregional levels, in keeping with the overall goals of the Conference. At the outset it will be particularly important to prepare the agenda more precisely on the basis of the illustrative subject areas indicated by the governments in due course. The Conference does not propose to cover all the facets of science, technology and development, nor to restrict itself to a few aspects which are barely representative. The aim is to shed light on a set of problems reflecting specific national experience.

Once the content of the agenda has been agreed upon, the member countries, with the active support of the Secretary-General of the Conference duly seconded by the regional commissions and specialized bodies, should prepare national reports reviewing their goals, policies and programmes in the field of science and technology. This exercise will facilitate a mutual knowledge of their experience and serve as a basis for the following stage: the identification of action to be included in a vast effort of international cooperation in this field.[15/]

13/ See the statement of Mr. João Da Costa, Secretary-General of the United Nations Conference on Science and Technology for Development, in the Committee on Science and Technology (E/C.8/L.75) New York, 1 February 1977.

14/ See Work Programme for the preparatory period, (E/C.8/47), Committee on Science and Technology for Development, 28 January 1977, and resolution 2035 in annex 2.

15/ See the Guidelines for the preparation of national papers, adopted by the Preparatory Committee at its twelfth meeting on 14 February 1977, in annex 5 to this document.

/These preparatory

These preparatory activities will be accompanied by the organization of seminars, study missions and special working groups aimed at complementing national efforts and disseminating more widely the goals and content of the Conference. The regional groups of the Advisory Committee, the United Nations Public Information Office and the regional commissions - properly strengthened - will have an important role to play in these activities. The Secretary-General of the Conference will have to orient them in accordance with the guidelines of the Committee on Science and Technology for Development established as the preparatory body of the Conference. Another necessary step would appear to be the updating of the World Plan of Action for the application of science and technology to development, in keeping with the content of the Conference.[16/]

4. Regional significance

Various documents prepared by the CEPAL Secretariat,[17/] as well as studies by specialized bodies and researchers in this field, indicate that the development and structure of Latin American societies have not greatly favoured the progress of science and technology based on local efforts. Complex circumstances, linked with the pattern of Latin America's incorporation in the world market and with the prevailing styles of development, appear to have hindered a sound, widespread application of technological knowledge, to the detriment of the dynamism and autonomy of the national systems.

This assertion should today be qualified. The region as a whole, despite the evident international and external restrictions, has made significant progress in four areas: the establishment of explicit science

16/ See the Report of the Administrative Committee on Coordination, Sub-Committee on Science and Technology, twenty-fourth session, New York, 1-11 February 1977.

17/ See for example CEPAL, Considerations on some recent experiences in the promotion of scientific and technological development in Latin America, (ST/CEPAL/Conf.53/L.4); CEPAL, Technology and the Latin American industrialization process (Supplement to document ST/CEPAL/Conf.51/L.2);and CEPAL, The economic and social development and external relations of Latin America (E/CEPAL/AC.70/2) pp. 77-90.

and technology policies; the creation of a suitable institutional and leading scaffolding; the implementation of machinery to control and guide technological change; and the fuller use of international cooperation.

The background to these advances is the growth of industrial productivity and, in the bigger countries, of exports of manufactures; and the active government policies aimed at achieving more diversified growth are particularly important.

A brief review of these points is in order. In the first place, there is a more thorough formulation of policies. The governments today believe that they must reduce the technological dependence which leads either to the indiscriminate absorption of imported technology, to high direct and indirect costs of a transfer which inevitably increases the external and internal disequilibria, or to the inappropriate use of the available infrastructure and resources. Put in positive terms, this means trying to foster autonomous decisions in these fields, in the hope that the national capacity for technological change will increase organically and steadily.

To this end, the majority of the countries of the region have created or are creating institutions and procedures to enable them, in principle, to reorient and absorb more selectively the flow of technology (national councils for science and technology, transfer licenses, local engineering firms, training of human resources, extension services, sectoral technology arrangements and financing). These efforts have been uneven and not entirely satisfactory; but they represent significant steps in what appears to be the right direction.

Thirdly, in approaching this new facet of economic and social policy the governments have begun to set up machinery for the search for and choice, transfer and promotion of technological innovation, both at the national and regional levels. The role of the public sector in these activities is primordial, just as it has been traditionally in other activities.

/Finally,

Finally, technical cooperation links with the exterior have become more diversified in accordance with the priorities established by the governments. There is a general trend to profit from the stock of knowledge and goodwill which exists in the international community. This is not restricted to certain countries or subjects, and has become very wide-ranging.

The progress in these four areas places Latin America, in relation to the purposes and basic substance of the Conference on Science and Technology for Development, in a position which is midway between that of the countries which are significantly cut off from the flows of technological exchange - and for which the problem is more one of choice than of local supply of technology - and those in the front rank. This is a singular position with at least two repercussions of regional interest.

One of these is the need to define common priority areas in the light of the past experience and the problems of Latin America. This exercise, which in some cases will coincide with concerns raised in other areas of development, will have to focus on three basic aspirations of the region: (a) the growth of productivity, with particular emphasis on the backward branches and sectors; (b) broader economic integration, so as to overcome both the old and new obstacles in the way of mutual cooperation; and (c) the strengthening of Latin American presence in international markets, particularly those of manufactures.

These overall goals could guide the work of different groups - including the Latin American group of ACAST - with a view of spelling out the agenda and the work of the Conference.

In addition, the Latin American viewpoint can make a substantive contribution to this international dialogue on scientific and technological development. In the light of its experience of late industrialization combined with attempts to define national and regional policies on the supply and choice of technologies, Latin America could foster a convergence between the needs and possibilities of regions differently placed in terms of income and industrialization. There is a pressing need to work out a variety of ideas, links and programmes in international technological cooperation, a task in which Latin America should become actively involved.

/5. Timetable

5. Timetable of activities

In accordance with paragraph 4 of United Nations General Assembly resolution 31/184, the Secretary-General appointed in January 1977 Mr. João da Costa to the post of Secretary-General of the Conference on Science and Technology for Development. Further, the Committee on Science and Technology for Development (CSTD), acting as the Preparatory Committee, held its first period of sessions from 31 January to 14 February 1977.[18]

These two actions are linked to the overall initiatives and guidelines developed with regard to the Conference.

Assuming its functions, the Conference Secretariat sent two notes to the Governments.[19] The first emphasized the importance of the national papers in the preparatory period for the Conference as vehicle for the indication of problems, priorities and measures related to scientific and technical development; the Conference Secretariat, assisted by the regional commissions, would have to offer the necessary assistance for the elaboration of the national papers. To facilitate communication, the Governments were requested to designate "focal points" which would be responsible for preparatory activities regarding the Conference.

In a second note, the Conference Secretariat defined the scope of the guidelines which would direct the preparation of the national papers and invited the Governments to request the assistance which they might need.

The Secretariat of CEPAL during the regional commission's seventeenth session (Guatemala, 25 April-5 May 1977), emphasized the importance and projections of the Conference and the Governments there represented asked the Secretariat to convoke a Regional Preparatory Conference during the second semester of 1978.[20]

18/ See Report of the Preparatory Committee for the United Nations Conference on Science and Technology for Development, New York, Supplement No. 43 (A/32/43).

19/ See State of Preparations for the United Nations Conference on Science and Technology for Development, Report of the Secretary-General, E/6000, 15 June 1977.

20/ CEPAL Resolution 374 (XVII). See annex 4.

/The Secretariat

The Secretariat of CEPAL, responding to this request, immediately initiated the pertinent activities and contacts.

It has to be added that, in the context of the scheduled Regional Conference, the Latin American Governments will have to present and discuss the national papers with a view to articulate a regional consent on the subject. The Secretariat of CEPAL, apart from offering the necessary technical assistance, will submit a document which interprets and synthesizes the main tendencies of scientific and technological development in Latin America.

The conclusions of the Regional Conference will be an input to the universal Conference which will take place in August 1979.[21/]

21/ See annex 6 containing the detailed timetable of the preparatory activities.

/Annex 1

Annex 1

2028 (LXI). UNITED NATIONS CONFERENCE ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

The Economic and Social Council,

Recalling its resolution 1897 (LVII) of 1 August 1974 on the question of convening a United Nations conference on science and technology, in which it, inter alia, emphasized the necessity for a conference and recognized that the new needs in the field of science and technology made it imperative for the United Nations to expand international cooperation in the field of science and technology on the basis of principles designed to adjust the scientific and technological relationships among States in a manner compatible with the special requirements and interests of developing countries.

Recalling further that in the same resolution it was also recognized that the conference should be oriented towards the elaboration of methods of action, and affirming that it should make recommendations for concrete action at the national, regional and global levels,

Taking note of the report of the Intergovernmental Working Group of the Committee on Science and Technology for Development,[1/]

Stressing that there is a need for the expression of political will to enable all parties to implement the recommended measures,

Bearing in mind the Declaration and the Programme of Action on the Establishment of a New International Economic Order (General Assembly resolutions 3201 (S-VI) and 3202 (S-VI) of 1 May 1974) and the Charter of Economic Rights and Duties of States (General Assembly resolution 3281 (XXIX) of 14 December 1974),

Recalling General Assembly resolution 3362 (S-VII) of 16 September 1975 on development and international economic cooperation, in particular paragraph 7 of section III thereof,

Considering that a substantial contribution could be made by science and technology to the process of economic and social development through concerted action at the international level,

1/ E/C.8/28.

/1. Recommends

1. Recommends to the General Assembly that it decide at its thirty-first session to convene the United Nations Conference on Science and Technology for Development during 1979 in time for the General Assembly to take action in the light of the results of the Conference at its thirty-fourth session;

2. Also recommends that the main objectives of the Conference should be:

a) To adopt concrete decisions on ways and means of applying science and technology in establishing a new international economic order, as a strategy aimed at economic and social development within a time frame;

b) To strengthen the technological capacity of developing countries so as to enable them to apply science and technology to their own development;

c) To adopt effective means for the utilization of scientific and technological potentials in the solution of problems of development of national, regional and global significance, especially for the benefit of developing countries;

d) To provide instruments of cooperation to developing countries in the utilization of science and technology for solving socio-economic problems that cannot be solved by individual action, in accordance with national priorities;

3. Further recommends that the Conference should be within the following framework:

I. Agenda

1. Science and technology for development:

a) The choice and transfer of technology for development;

b) Elimination of obstacles to the better utilization of knowledge and capabilities in science and technology for the development of all countries, particularly for their use in developing countries;

c) Methods of integrating science and technology in economic and social development;

d) New science and technology for overcoming obstacles to development.

/2. Institutional

2. Institutional arrangements and new forms of international cooperation in the application of science and technology:

a) The building up and expansion of institutional systems in developing countries for science and technology;

b) Research and development in the industrialized countries in regard to problems of importance to developing countries;

c) Mechanisms for the exchange of scientific and technological information and experiences significant to development;

d) The strengthening of international cooperation among all countries and the design of concrete new forms of international cooperation in the fields of science and technology for development;

e) The promotion of cooperation among developing countries and the role of developed countries in such cooperation.

3. Utilization of the existing United Nations system and other international organizations;

Utilization of the existing United Nations system and other international organizations to implement the objectives set out above in a coordinated and integrated manner.

4. Science and technology for the future:

Debate on the basis of the report of a panel of experts to be convened on this subject.

II. Preparatory period

1. The preparatory period for the Conference should be an integrated and fundamental component of the Conference itself, through preliminary national and regional analysis of relevant socio-economic problems which may be solved with the help of science and technology.

2. The detailed content of the agenda will be determined by the Preparatory Committee, taking into account the deliberations at the national, regional and interregional levels.

3. A limited number of subject areas will be selected with a view to providing important matters for analysis and discussion of the issues listed in the agenda, on the basis of national priorities, through the

/preparatory

preparatory process in accordance with the criteria set forth below; the subject areas should:

a) Be few, with a minimum of five;

b) Be defined as problem areas with economic and social implications that may be solved by utilizing science and technology;

c) Require an integrated and interdisciplinary approach and an interagency approach;

d) Have clear relevance to problems of development in all countries, especially developing countries, and emerge from national priorities through regional consensus;

e) Be clearly delineated and limited in scope.

4. The preparatory work should ensure that adequate data and practical analyses shall be made available by means of a thorough study by Member States.

4. Requests the Committee on Science and Technology for Development to act as the Preparatory Committee for the Conference, open to the participation of all interested States, and to organize its work in such a way as to ensure the continuity of its preparatory role between its sessions;

5. Requests that a Secretary-General be appointed at the earliest possible time to head a secretariat of the Conference, to be composed of the Office for Science and Technology, which should be strengthened in such a way as to reflect fully the fundamental requirements of development, and of competent personnel from the United Nations Conference on Trade and Development, the United Nations Industrial Development Organization, the United Nations Educational, Scientific and Cultural Organization and other bodies and organizations of the United Nations system, competent bodies and organizations of the United Nations system should, for the purposes of the Conference, be prepared to depute high-level specialists to the secretariat of the Conference, in order to give substantive support to the Secretary-General of the Conference in the preparatory work for the Conference and to constitute links between those bodies and organizations and the Secretary General of the Conference;

/6. Invites

6. Invites the Secretary-General to request the Administrative Committee on Coordination to promote, through its Sub-Committee on Science and Technology, close and permanent contact with the Secretary-General of the Conference;

7. Requests that, for the preparatory work leading to the Conference, the Advisory Committee on the Application of Science and Technology to Development should advise, on request, the Secretary-General of the Conference and the Preparatory Committee on matters pertaining to the Conference, and assist and collaborate, at the request of the Secretary-General of the Conference, in the preparation of the Conference at the regional level;

8. Recommends that:

a) In accordance with the objectives of the Conference, the preparatory process at the national level should take fully into account the necessity that, in accordance with the national development efforts, the scientific and technological content of the agenda should be integrated with its economic and social content;

b) The science and technology units of the regional commissions should be strengthened, so that they may participate actively in the preparation and organization of the regional meetings to be held prior to the Conference;

9. Requests the Secretary-General and the Committee on Science and Technology for Development to report on the progress of their respective preparatory work;

10. Requests the Secretary-General of the Conference to seek the cooperation of intergovernmental organizations and non-governmental organizations in consultative status with the Economic and Social Council which may be in a position to contribute constructively to the preparation of the Conference;

11. Invites Governments to participate fully in the preparation of the Conference.

/Annex 2

Annex 2

2035 (LXI). THE PREPARATORY PERIOD FOR THE UNITED NATIONS CONFERENCE ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

The Economic and Social Council,

Recalling its resolution 1897 (LVII) of 1 August 1974 on the question of convening a United Nations conference on science and technology,

Recalling General Assembly resolution 3507 (XXX) of 15 December 1975 on institutional arrangements in the field of the transfer of technology,

Recalling General Assembly resolution 3362 (S-VII) of 16 September 1975 on development and international cooperation, in particular paragraph 7 of section III thereof,

Recalling resolution 87 (IV) entitled "Strenghtening the technological capacity of developing countries", adopted by the United Nations Conference on Trade and Development on 30 May 1976,[1/] especially paragraph 26 thereof,

Recalling further resolutions 88 (IV) on industrial property and 89 (IV) entitled "International code of conduct on transfer of technology", also adopted by the Conference on 30 May 1976,[2/]

Bearing in mind Economic and Social Council resolution 2028 (LXI) of 4 August 1976 on the United Nations Conference on Science and Technology for Development, in particular section II of paragraph 3 of that resolution, which emphasizes the importance and function of the preparatory period at the national and regional levels,

1. Requests the Secretary-General, in the light of paragraph 1 of resolution C of the Committee on Science and Technology for Development adopted at its third session[3/] and relating to the preparation of

1/ See Proceedings of the United Nations Conference on Trade and Development, Fourth Session, vol. I, Report and Annexes (to be issued as a United Nations publication), part one.
2/ Ibid.
3/ See Official Records of the Economic and Social Council, Sixty-first Session, Supplement No. 3 (E/5777), paragraph 211.

/national

national papers for the United Nations Conference on Science and Technology for Development, to give attention to the following *inter alia*:

a) A general description of the national views, programmes and policies relating to the development of science and technology pertaining particularly to the items on the agenda proposed for that Conference reproduced in section I of paragraph 3 of Council resolutions 2028 (LXI);

b) Proposals and suggestions concerning different forms of bilateral and multilateral cooperation, with a view to improving present scientific and technological potentials, in accordance with each country's priorities or programmes and policy objectives, with the object of defining the role of Member States and the United Nations system in implementing action-oriented programmes;

c) The selection from among the sub-items of the proposed agenda, of specific examples illustrating the different approaches to the applications of science and technology for dealing with the subject areas;

d) The function of the Secretary-General of the Conference of providing, on specific request and to the extent possible, technical support for the preparation of national papers;

2. *Requests* the Secretary-General of the Conference to prepare as a matter of urgency a programme of work for the various stages of the preparatory period for the Conference, for consideration by the Preparatory Committee at its first meeting;

3. *Requests* the Preparatory Committee for the Conference at its first meeting to:

a) Establish the guidelines for the preparation of national papers;

b) Finalize the detailed programme of work for the preparatory period for the Conference;

4. *Requests* the Preparatory Committee for the Conference to prepare at the earliest possible date the final provisional agenda, taking into account the results of the preparatory work done at the national, regional and interregional levels;

/5. *Recommends*

5. Recommends that the Secretary-General of the Conference include in the programme of work plans for the seminars, travelling seminars and specialized task forces, which should be organized, with the participation as appropriate of the United Nations bodies concerned, so as to supplement the national efforts with the aim of the full mobilization and participation of national inputs;

6. Recommends further that, before the regional and interregional meetings, the Secretary-General of the Conference, in conjunction with the United Nations specialized agencies and organizations, should cooperate fully in the establishment of seminars, travelling seminars and task forces in subject areas of interest at the regional and interregional levels, such cooperation to involve in particular the regional commissions, as well as regional intergovernmental organizations;

7. Invites non-governmental specialized bodies and experts at the national, regional and interregional levels to support these activities whenever this is deemed beneficial and necessary;

8. Recommends that, in order to ensure an appropriate composition of the secretariat of the Conference, the selection of the personnel to be seconded from the various parts of the United Nations system should be carried out by mutual agreement between the Secretary-General of the Conference and the executive heads of the organizations concerned, taking into account paragraph 5 of Economic and Social Council resolution 2028 (LXI);

9. Recommends further that adequate provision should be made in the Conference budget for these arrangements, particularly as they apply to developing countries;

10. Further calls on the governing bodies of the various organizations concerned to make the necessary provision to enable their organizations to participate to the fullest extent possible in the work of the Conference;

11. Urges the Secretary-General to appoint the Secretary-General of the Conference as soon as possible.

/2036 (LXI)

2036 (LXI). APPLICATION OF COMPUTER SCIENCE AND TECHNOLOGY TO DEVELOPMENT

The Economic and Social Council,

Having in mind resolution B on the application of computer science and technology to development, adopted by the Committee on Science and Technology for Development at its third session,[4]

Having examined the interim report of the Secretary-General on the application of computer science and technology,[5] expressing the hope that a final report will be submitted to the Council at its sixty-third session,

1. Endorses in general resolution B adopted by the Committee on Science and Technology for Development at its third session;

2. Points out that, in order to assume the primary responsibility for the implementation of the recommendations contained in the report submitted by the Secretary-General to that Committee,[6] the organizations of the United Nations system and the Intergovernmental Bureau for Informatics should be ready to submit to their legislative bodies programme and budget proposals covering the financial implications of each of the recommendations with which they propose to associate themselves;

3. Requests the Secretary-General to submit the report of the ad hoc working group referred to in paragraph 2 of his interim report, together with the views of the Advisory Committee on the Application of Science and Technology to Development and the comments of the Administrative Committee on Coordination, to the Committee on Science and Technology for the Development at its fourth session, and, through that Committee, to the Council at its sixty-fifth session.

4/ See Official Records of the Economic and Social Council, Sixty-first Session, Supplement No. 3, (E/5777), paragraph 211.
5/ E/5840.
6/ E/C.8/37.

Annex 3

31/184. UNITED NATIONS CONFERENCE ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

The General Assembly,

Recalling section III, paragraph 7, of its resolution 3362 (S-VII) of 16 September 1975, in which it decided that a United Nations Conference on Science and Technology for Development should be held in 1978 or 1979,

Recalling Economic and Social Council resolutions 1897 (LVII) of 1 August 1974 on the question of convening a United Nations conference on science and technology, 2028 (LXI) of 4 August 1976 on the United Nations Conference on Science and Technology for Development and 2035 (LXI) of 4 August 1976 on the preparatory period for the Conference,

Recalling further the Declaration and the Programme of Action on the Establishment of a New International Economic Order[1/] and the Charter of Economic Rights and Duties of States,[2/]

1. Endorses Economic and Social Council resolutions 2028 (LXI) and 2035 (LXI);

2. Decides to convene the United Nations Conference on Science and Technology for Development during 1979, in time for the General Assembly to take action at its thirty-fourth session in the light of the results of the Conference;

3. Decides that the Conference should be within the framework recommended in paragraphs 2 and 3 of Economic and Social Council resolution 2028 (LXI);

1/ Resolutions 3201 (S-VI) and 3202 (S-VI).
2/ Resolution 3281 (XXIX).

/4. Requests

4. Requests the Secretary-General to appoint a Secretary-General of the Conference at the earliest possible time, as provided in paragraph 5 of Council resolution 2028 (LXI), and further requests such appointment to be made at the level of Under-Secretary-General, in order to ensure the appropriate capacity for coordination and interaction with Member States and within the specialized agencies and other organizations of the United Nations system;

5. Decides that the Committee on Science and Technology for Development shall act as the Preparatory Committee for the United Nations Conference on Science and Technology for Development, open to the participation of all States, and further decides that the Preparatory Committee shall hold its first session early in 1977 and submit its report to the General Assembly at its thirty-second session through the Economic and Social Council at its sixty-third session;

6. Requests the Preparatory Committee to consider, taking into account the time needed for the due completion of the various stages of preparation for the Conference, the question of the timetable, sites and other necessary arrangements for the regional and interregional preparatory meetings and to submit its proposals to the Economic and Social Council at its sixty-third session;

7. Also requests the Committee on Science and Technology for Development to consider, at its meeting in 1977, as the Preparatory Committee, the draft provisional agenda for its fourth regular session;

8. Decides to take a final decision on the question of the site of the Conference at its thirty-second session;

9. Invites the specialized agencies, in particular the United Nations Educational, Scientific and Cultural Organization, as well as the International Atomic Energy Agency and the interested organs of the United Nations, the United Nations Conference on Trade and Development, the United Nations Industrial Development Organization and the regional commissions to cooperate fully in the preparations for the Conference, as provided by Economic and Social Council resolution 2028 (LXI);

/10. Requests

10. Requests the Committee on Science and Technology for Development to take fully into account, in the process of preparation for the Conference, the interrelationship between the scientific/technological fields and other areas of activity of the United Nations system, in particular the economic area, so as to create more favourable conditions for the further promotion of comprehensive international cooperation;

11. Invites the Secretary-General to request the Administrative Committee on Coordination to promote, through its Sub-Committee on Science and Technology, close and permanent contact with the Secretary-General of the Conference;

12. Decides that, for the preparatory work leading to the Conference, the Advisory Committee on the Application of Science and Technology to Development should advise, on request, the Secretary-General of the Conference and the Preparatory Committee on matters pertaining to the Conference and should assist and collaborate, at the request of the Secretary-General of the Conference, in the preparation for the Conference at the regional level;

13. Requests the Secretary-General of the Conference to seek the cooperation of intergovernmental organizations and non-governmental organizations in consultative status with the Economic and Social Council which may be in a position to contribute constructively to the preparation of the Conference;

14. Invites Governments to participate fully in the preparations for the Conference, taking into account the provisions of Economic and Social Council resolutions 2028 (LXI) and 2035 (LXI);

15. Requests the Secretary-General of the United Nations to submit a report to the General Assembly at its thirty-second session, through the Economic and Social Council, on the implementation of the present resolution.

/Annex 4

Annex 4

374 (XVII). LATIN AMERICAN CONFERENCE ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

The Economic Commission for Latin America

Bearing in mind paragraphs 7 and 8 (b) of Economic and Social Council resolution 2028 (LXI), Part II,

1. Invites the Governments of the region to provide their support for the preparations for the United Nations Conference on Science and Technology for Development, to be held in 1979;

2. Requests the Secretariat of CEPAL to convene, sufficiently far in advance and in any case no later that the end of 1978, a ministerial-level of suitably high-level Latin American Conference on Science and Technology for Development, with a view to the adoption of common positions by the region for the United Nations Conference;

3. Also requests the Secretariat of CEPAL to prepare a paper for submission at the Latin American Conference, containing an interpretative analysis of scientific and technological development in Latin America, and identifying its main political, economic and social determinants, which should be submitted to Governments sufficiently far in advance;

4. Likewise requests the General Assembly at its thirty-second session to authorize the United Nations Conference on Science and Technology for Development to be held in a developing country.

/Annex 5

Annex 5

Guidelines for the preparation of national papers[1/]

The Preparatory Committee for the United Nations Conference on Science and Technology for Development decides to adopt the following guidelines for the preparation of national papers:

INTRODUCTION

1. The United Nations Conference on Science and Technology for Development is to be convened in August 1979. National papers, to which these guidelines apply, should reflect comprehensive points of view regarding each item and subitem of the Conference agenda,[2/] except for those specific points where a broader view may be appropriate in the light of economic cooperation/integration agreements entered into by countries. Such papers should provide the basic material for formulating the joint documents during the preparatory period for the Conference.[3/]

2. The process of their preparation is to be the essential instrument of the Conference in bringing about the strengthening of national capabilities for the application of science and technology to achieve the degree of national self-reliance called for in the new international economic order. The Conference secretariat will be ready on request to advise and assist in this process.

OUTLINES FOR NATIONAL PAPERS

A. Contents

3. The contents of the national papers should be in accordance with the topics listed in the Conference agenda, namely:

1/ Adopted by the Preparatory Committee at its 12th meeting (86th meeting of the Committee on Science and Technology for Development) on 14 February 1977.

2/ See Economic and Social Council resolution 2028 (LXI), paragraph 3, section I.

3/ See Economic and Social Council resolutions 2028 (LXI), paragraph 3, section II.3, and 2035 (LXI).

/"1. Science

"1. Science and technology for development

a) The choice and transfer of technology for development;

b) Elimination of obstacles to the better utilization of knowledge and capabilities in science and technology for the development of all countries, particularly for their use in developing countries;

c) Methods of integrating science and technology in economic and social development

d) New science and technology for overcoming obstacles to development.

2. Institutional arrangements and new forms of international cooperation in the application of science and technology

a) The building up and expansion of institutional systems in developing countries for science and technology;

b) Research and development in the industrialized countries in regard to problems of importance to developing countries;

c) Mechanisms for the exchange of scientific and technological information and experience significant to development;

d) The strengthening of international cooperation among all countries and the design of concrete new forms of international cooperation in the fields of science and technology for development;

e) The promotion of cooperation among developing countries and the role of developed countries in such cooperation.

3. Utilization of the existing United Nations system and other international organizations.

"Utilization of the existing United Nations system and other international organizations to implement the objectives set out above in a coordinated and integrated manner."

B. Basic guidelines

4. The introduction of the national papers should contain a statement on the scope and objectives of the paper, very concise sketches of the contents of each section of the paper and specifications of any major contentions or hypotheses put forth in the paper. The key institutions involved in writing the paper could be included.

/5. The above

5. The above items and subitems should be dealt with in such a manner that the identification and diagnosis of problems and pertinent recommendations for concrete solutions should form an integral part of the national papers. To this end, it is recommended that each subitem should be dealt with as far as possible in accordance with the following framework:

a) The country's understanding of, and commitment to, the application of science and technology to development;

b) The country's perceived and actual strategy of integrating science and technology with economic and social development;

c) The obstacles experienced by the country in carrying out a) and b) above;

d) Illustrations of any new scientific and technological developments which, if properly applied, hold promise for development.

As far as possible, these recommendations should be based on considerations of a national and regional nature which ultimately call for coordinated action among developing countries at the interregional level. In addition, adequate emphasis should be placed on the cooperation required of the developed countries for concrete action at the world level.

6. In their analysis, the documents should reflect the totality of the scientific-technological experience of the respective countries, using a sectoral approach when necessary for the purpose of illustration.

7. These analyses should take into consideration such aspects as:

a) The role of modern science and technology in the socio-economic development of a particular country;

b) The main principles of scientific policy of a particular country and the basic directions of science and technology for development;

c) Building up and strengthening scientific and technological potential, improving infrastructure and administering science as an organizational system.

8. In addition to the general description provided for each subitem, "subject areas" should be chosen to illustrate in detail the nature, the consequences, the scientific and technological implications and the possible solutions to the problems identified therein. The subject areas developed in accordance with Economic and Social Council resolution 2028 (LXI) should not be regarded as constituting regional or interregional priorities and nor necessarily even as national priorities.

/C. Specific

C. Specific guidelines for approaching subitems of agenda items 1, 2 and 3

9. The guidelines to be followed in approaching subitems of agenda items 1, 2 and 3 are shown below:

1. Science and technology for development:

a) The choice and transfer of technology for development;

b) Elimination of obstacles to the better utilization of knowledge and capabilities in science and technology for the development of all countries, particularly for their use in developing countries.

Subitems a) and b) should be considered individually and together in terms of the following points, including the linkages between national development plans and programmes and international technological relations, as well as the factors which create technological dependency:

i) The state of technological dependency and analysis of the factors which increase or decrease such dependency and of the various degrees of technological dependency. Analysis of the difficulties encountered in the processes of transfer and selection of technology, and of the determining factors in the transfer of technological capacity and the importation of technology. The analysis should take into consideration the need to strengthen the capabilities of developing countries to choose and adapt technologies in accordance with their national policies and priorities, particularly considering various relevant factors, for example, the practices of transnational corporations, technological monopolies, the barriers to the flow of advanced and proprietary technology, limited technological infrastructures and so on;

ii) Assessment of national measures taken in the context of a) and b), particularly measures taken to rationalize imports of capital goods, to promote scientific and technological information systems, to develop extension services capabilities on the part of research institutes, consulting firms and technology development enterprises, including those necessary for the adoption of integrated national policies for technology transfer and development and those necessary for coordinating the evaluation and negotiation of technologies;

iii) From the

iii) From the country's experience, analysis is to be presented with regard to the following (and other) obstacles which have impeded the formation and/or attainment of the country's intention to apply science and technology to development.

a. Lack of appreciation of the rule of science and technology in development;

b. Lack or inadequacy of a scientific and technological infrastructure;

c. Lack of access to scientific and technological information;

d. Inadequate contact between endogenous research and development and technology users;

e. Inadequate or unsuitable education and training;

f. Emigration of scientific and technical manpower ("brain drain");

g. Lack or inadequacy of planning;

h. Lack of adequate criteria for the choice of technologies that are appropriate to the development objectives of the country;

i. Shortage of entrepreneurs and managerial skills;

j. Unsuitable national or international institutional systems for science and technology;

k. Insufficient financing resources (domestic or foreign exchange) for investment;

iv) The formulation of appropriate recommendations to solve the stated problems through actions at the national, regional, interregional or global level;

c) Methods of integrating science and technology in economic and social development;

d) New science and technology for overcoming obstacles to development.

Subitems c) and d) should be considered individually and together putting emphasis on the following:

/i) A detailed

i) A detailed analysis of the present state of technological capability, the application of technology to all sectors of the economy, in particular to the production sectors, and science and technology policy as an integral part of the over-all national planning process;

ii) An analysis of the national measures adopted and envisaged by each country in order to:

a. Enhance the capabilities of technological supply from both internal and foreign origin;

b. Promote the application of science and technology for rural development;

c. Stimulate the demand for local scientific and technological output (technology plus personnel) within all sectors of the national economy, so as to make optimum use of local scientific and technological capacity;

d. Foster the role of basic science, applied science, engineering, social science, experimental development and technological services and the balance between the resources devoted to them;

e. Foster the role of extension services;

f. Foster approaches to overcoming economic, social and environmental problems created by newly introduced technologies;

g. Promote the interaction between the scientific and technological systems and other systems, particularly the sectors of production;

h. Popularize science and technology with emphasis on bringing about a change in attitudes towards the use of science and technology in the development process;

iii) A discussion on new science and technology for promoting development with specific examples of new and longer range scientific and technological developments which, if properly applied, hold promise for development;

iv) Recommendations to facilitate the short-range and long-range solutions of concrete problems as they are detected, paying particular attention, inter alia, to:

/a. Those

a. Those measures directed at ensuring a faster substitution of foreign technologies by those that may be generated by local scientific and technological capacity;

b. Mechanisms for the control and selection of technology;

c. Mechanisms to regulate and canalize foreign investment as devices for the transfer of technology;

d. Measures to facilitate the unpackaging of technology;

e. Measures to regulate industrial property.

2. Institutional arrangements and new forms of international cooperation in the application of science and technology;

a) The building up and expansion of institutional systems in developing countries for science and technology.

Subitem a) should be considered individually, placing emphasis on:

i) The national conceptualization of the scientific and technological systems of each country;

ii) The diagnosis of the current national situation with regard to the specific subitem involved. Assessment of the scientific and technological infrastructure capacity as typified by economic and social research areas;

iii) The measures adopted by each country to solve the problems thus described;

iv) The role played by international cooperation in the solution of problems faced by the external sector in the developing countries' economies that limit development of national systems of science and technology, describing possible actions that should be taken in the short term, medium term and long term in order to use to the maximum the benefits of such cooperation;

v) The elaboration of measures taken to ensure the optimal use of human resources; promotion of the training and continued improvement of the technical experts needed for the development of the national scientific and technological system; and formulation of policies directed at curbing the exodus from the developing countries of trained personnel;

/b) Research

b) Research and development in the industrialized countries in regard to problems of importance to developing countries.

Subitem b) should be considered individually, placing emphasis on the following:

i) The national papers prepared by industrialized countries should include a description of the current status of their respective scientific and technological potentials with particular emphasis on quantitative data wherever feasible about:

a. The direction given to such potential in the context of national socio-economic development objectives;

b. The identification and wherever possible, the classification of those scientific and technological activities of benefit to the developing countries;

c. The trends in levels and kinds of resources applicable in various ways to solving national, regional and world-wide problems, and particularly those of developing countries;

d. The distribution of such potential by economic sectors;

e. Investments in scientific and technological activities applicable to development problems in relation to and/or in terms of gross domestic product;

ii) As a result of this general description, measures taken by each developed country to facilitate access of developing countries to the research and development programmes that are relevant to the solution of their development problems should be listed; new measures to improve the existing situation should also be specified;

iii) Special reference should be made to the role that international cooperation could play in enhancing the participation of developing countries in the scientific and technological development efforts carried out in industrialized countries, including the role in this respect of international financial cooperation;

iv) Developed countries should analyse the relative success or failure of their respective policies of international development cooperation as they affect efforts of developing countries to build endogenous science and technology capabilities;

v) In the context of their national papers the developing countries should submit comments on this subitem. The comments should provide analytical explanations on encouraging research and development in and by industrialized countries to be oriented in new, more effective and practical ways towards the solution of concrete development problems in the developing countries;

c) Mechanisms for the exchange of scientific and technological information and experiences significant to development;

d) The strengthening of international cooperation among all countries and the design of concrete new forms of international cooperation in the fields of science and technology for development;

e) The promotion of cooperation among developing countries and the role of developed countries in such cooperation.

In the discussion of the above subitems, the following should be achieved:

i) A general description of current mechanisms for exchanging scientific and technological information on a national, regional, interregional and world-wide basis should be given;

ii) A general review should be prepared of current technical, scientific and technological cooperation schemes on a subregional, regional, interregional and world-wide basis;

iii) As a result of the above descriptions, a diagnosis from a national perspective of the effectiveness of such schemes as tools to strengthen and develop technological capabilities in developing countries should be prepared;

iv) Special reference should be made to the role that cooperation among the developing countries could play through the establishment of joint action schemes that make possible:

a. The establishment of joint programmes in the field of scientific and technological activity to solve specific problems of three or more countries;

/b. The introduction

b. The introduction, and the joint use, of the established infrastructures with a view to making maximum use of them;

c. The organization of the exchange of information and experience, particularly as regards the scientific and technological capacity of each country;

d. The organization of systematic information programmes;

e. The formation of systematic training programmes for specialized personnel;

f. The strengthening of the negotiating capacity of developing countries regarding the acquisition of technology, including the designing of a joint negotiating model;

v) National points of view on the role of developed countries in support of collaborative programmes and projects among developing countries should be defined, including those activities regarding the encouragement of imports of technology from developing countries, financial cooperation for the technological development programmes arising from the cooperation schemes among developing countries; training programmes for scientific and technical personnel in developing countries; and access to their scientific and technological information systems;

vi) Recommendations should also be made concerning the ways and means to strengthen international cooperation among all countries, especially between developed and developing countries, including, if appropriate, proposals for new schemes and mechanisms.

3. Utilization of the existing United Nations system and other international organizations:

Utilization of the existing United Nations system and other international organizations to implement the objectives set out in Economic and Social Council resolution 2028 (LXI), paragraph 3, section I, in a coordinated and integrated manner.

Recommendations should also include measures that should be adopted to strengthen coordination, increase efficiency of existing mechanisms, or establish new action mechanisms, or to restructure international organizations in the field of scientific and technological cooperation for the benefit of all countries and, in particular, developing countries.

/Annex 6

Annex 6

TIMETABLE OF PREPARATORY ACTIVITIES FOR THE UNITED NATIONS CONFERENCE ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT 1/

Date	Activities
February 1977 - April 1978	Preparation of national papers.
October 1977 - December 1977	Regional and subregional meetings of government experts.
7-17 November 1977	23rd session of the Advisory Committee on the Application of Science and Technology to Development.
23-27 January 1978	Second session of the Preparatory Committee for the United Nations Conference on Science and Technology for Development.
January/February 1978	Fourth session of the Committee on Science and Technology for Development.
1 May 1978	Deadline for the submission of national papers to the secretariat of the Conference.
June/July 1978	Regional Conferences.
31 July - 11 August 1978	Meetings of the Adisory Committee on the Application of Science and Technology to Development.
September 1978 - June 1979	Preparation by the secretariat of the Conference of the conference documents.
August 1979	Holding of the Conference.

1/ This timetable is due to changes according to the decisions of the Preparatory Committee of the United Nations Conference on Science and Technology for Development.