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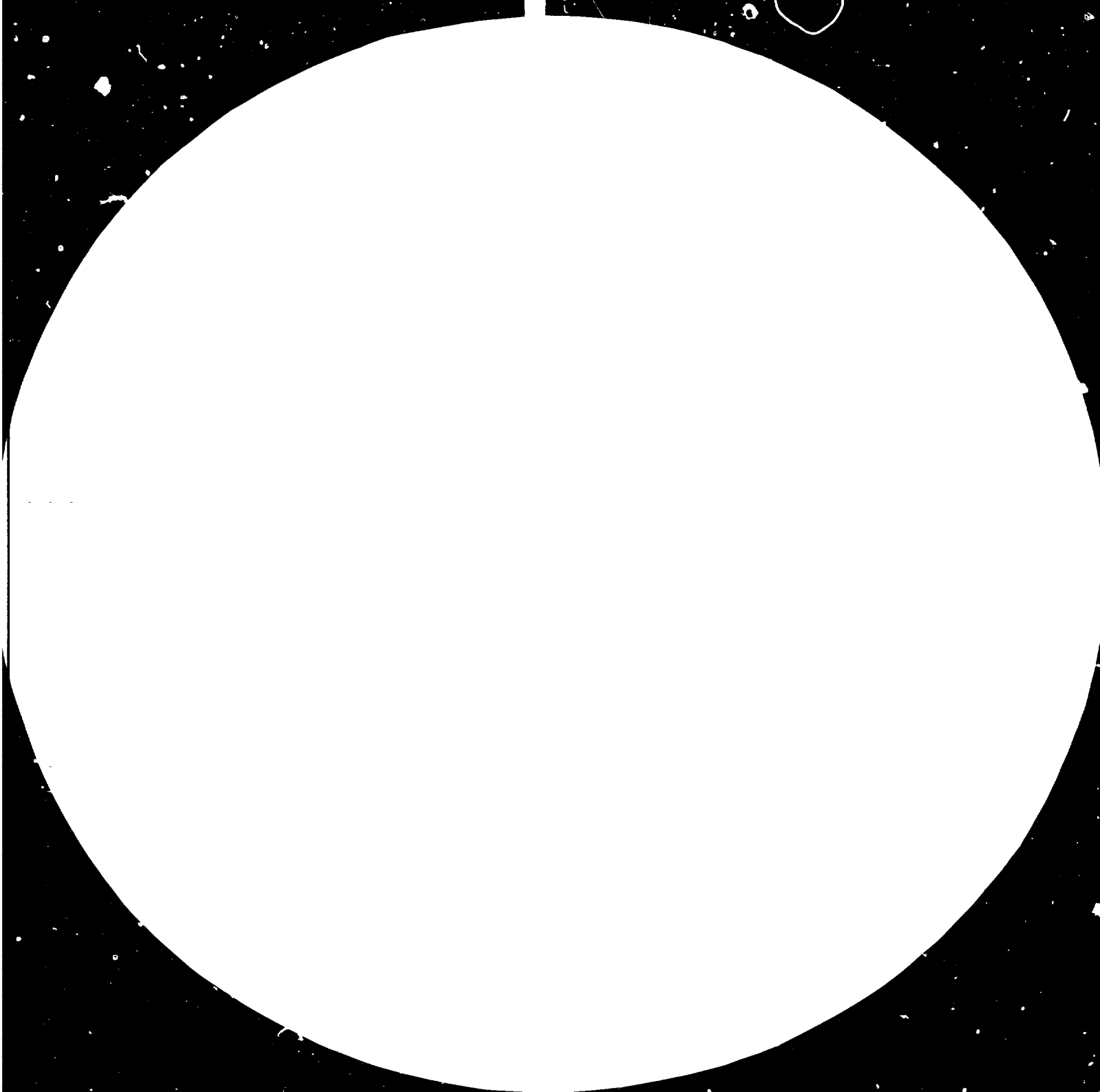

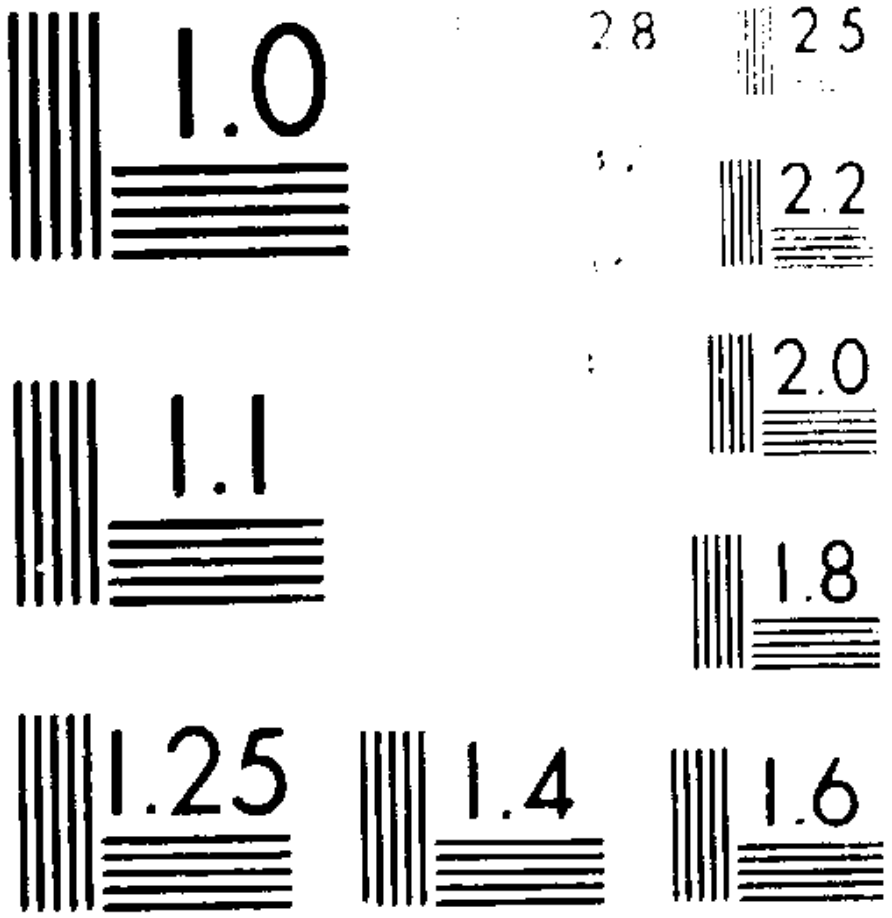
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United Nations Industrial Development Organization

Distr.
LIMITED

ID/WG.309/4
18 September 1979

ENGLISH

Third Consultative Group on
Appropriate Industrial Technology
Vienna, Austria, 17 - 21 September 1979

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RECOMMENDATIONS OF THE UNITED NATIONS CONFERENCE ON SCIENCE
AND TECHNOLOGY FOR DEVELOPMENT *

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INTRODUCTION

An attempt is made to classify the UNCSTD Recommendations for analytical purposes as they cover the whole spectrum of issues connected with Science and Technology. The classification is arranged according to areas of action and the kind of policy measures which are called for. The attached table offers such a classification. While this classification could no doubt be improved upon, it is nevertheless felt that it does provide a practical way of organizing the material. The synoptic table gives the relevant information and the following pages are organized accordingly. The Note prepared by the Secretariat of UNIDO entitled: "Strengthening of National Technological Capabilities of Developing Countries: The Role of UNIDO", in general, follows this classification.

UNCSTD RECOMMENDATIONS BY AREA AND LEVEL OF ACTION

Identified Areas of Action	Level of Action → / UNCSTD Document ↓	National Action by Developing Countries	Cooperation Among Developing countries	Cooperation between Developed and Developing Countries	Subregional, Regional and Interregional Cooperation	International Cooperation	International Organizations and United Nations
Technology Policies and Plans	A/CONF.81/12 A/CONF.81/12/Add.2 A/CONF.81/12/Add.4 A/CONF.81/14	A1–A4.bis;B22	B15	A39–A42;B19 B8	A23;A24;B23	B17 B17(b;g) B5	A54;B11;B20 C1–C5
Strengthening of Technological Capabilities	A/CONF.81/12 A/CONF.81/12/Add.3 A/CONF.81/12/Add.4	A11			A25		A56 B25
Institutional Arrangements	A/CONF.81/12 A/CONF.81/12/Add.2 A/CONF.81/12/Add.3 A/CONF.81/12/Add.4 A/CONF.81/14	A5–A8 B22 A11–A14 A13		A43–A45.bis	A26–A28	B21	A55 B24 C11–C20
Transfer, Acquisition and Assessment of Technology	A/CONF.81/12 A/CONF.81/12/Add.3 A/CONF.81/12/Add.4 A/CONF.81/14	A9;B1 A10;A12–A14 B1(i)		B2;B5;B6 A46(c) A46;B2–B4;F6	A30	B5;B6 B7	 A29(6);B6(e) C6
Technological Information System	A/CONF.81/12 A/CONF.81/12/Add.2 A/CONF.81/14	A15;A17–A19;B9 A16;A32	B9	A47;B10;B16 A42;A46;B10; B16	A31;A33	B17	A57 B11;B12;B14;B15 C7–C9
Development of Human Recources	A/CONF.81/12 A/CONF.81/12/Add.2 A/CONF.81/14	A20		A49 A49(f)	A34		A58;B20 B20(f;g);B.1(f) C10
Financial Arrangements	A/CONF.81/12 A/CONF.81/12/Add.1 A/CONF.81/12/Add.4 A/CONF.81/14	A21		 A53 A51;A52	 A36	 A35–A37;A59	B11 A35 A22;A38;A50;B26 C21–C28

Note: Figure indexed letters refer to the paragraphs in the respective documents.

The various chapters identified in the attached document refer to the following:

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I. Science and Technology Policies and Plans	3 - 5
II. Strengthening the Science and Technology Capacities of the Developing Countries	5 - 31
- Institutional Arrangements	5 - 11
- Transfer, Acquisition and Assessment of Technology	11 - 21
- Scientific and Technological Information Systems	21 - 28
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* N.b. The sources of texts appearing in square brackets are shown in parentheses, identified as follows:

(1) Group of 77 (other than the basic text)
(2) Canada
(3) European Economic Community (EEC)
(4) German Democratic Republic (on behalf of Bulgaria, the Byelorussian SSR, Czechoslovakia, GDR, Hungary, Mongolia, Poland, the Ukrainian SSR and the USSR)
(5) Japan
(6) Nordic Group
(7) Switzerland
(8) United States of America

I. Science and Technology Policies and Plans

RECOMMENDATIONS

National level

Scope and dimensions of science and technology policy

A.1. The Government of each developing country should formulate a national policy for science and technology, which involves carrying out certain essential responsibilities such as the planning, budgeting, management, co-ordination, stimulation, promotion and execution of scientific and technological activities relevant to defined development objectives. It implies also the bringing about of careful interaction between factors responsible for growth and transformation.

A.2. Technology policies of developing countries should provide for a technological spectrum ranging from the most simple to the most advanced technologies. Their efforts should be to arrive at an optimum combination of capital and non-capital-intensive technologies in a country-specific, resource-specific and product-specific pattern.

Major elements of science and technology policy for developing countries

A.3. The science and technology components should be included in national development plans or strategies as basic instruments for achieving the different objectives and goals contained in them; these plans should also include specific requirements at the sectoral and intersectoral level for the generation, mastery, transfer, acquisition, local dissemination, assimilation and utilization of science and technology, including know-how.

A.4. An effective science and technology policy should embrace elements such as:

(a) Formulation of science and technology plans with the specific view of establishing targets for each science and technology sector, determining sectoral priorities arising from national development objectives and critically evaluating the resources which may be required as a result of co-ordinated intersectoral programmes;

(b) Survey of the state-of-art in each science and technology sector and assessment of the availability of national resources and science and technology potential;

(c) The mobilization of financial resources for scientific and technological development;

(d) The setting up of the appropriate legal, administrative, fiscal and institutional machinery required to carry out the process of scientific and technological development. Furthermore, the science and technology policy should take into consideration manpower, investment and income-distribution policies, and be in harmony with the short-term needs as well as long-term requirements;

(e) Development of managerial capacities in research and development and technology in all its facets;

(f) The establishment of a national capacity for assessment, selection, acquisition and adaptation of foreign technology and expertise taking fully into account prevailing economic, social, cultural and environmental conditions;

(g) Stimulation of demand for indigenous research, technology and other science and technology services in general;

(h) The diffusion of science and technology among all sectors of the economy, their corresponding programmes, and their continued review, appraisal and adjustment at the macro and micro level;

(i) Promotion of co-ordination and co-operation among government agencies, research institutions, professional societies and technology users;

(j) Undertaking of joint projects among all agents of science and technology development;

(k) The education and training of the human resources required to generate and implement science and technology development policies, plans, programmes and projects;

(l) The promotion of basic and applied research, and research and development in a balanced mix;

(m) Protection of the traditional scientific and technological base and, at the same time, upgrading of such knowledge in order to utilise it fully in the development process;

(n) Ensuring that the learning capacity of rural communities is increased through the application of science and technology.

/A.4.bis. The mobilization of science and technology for development should includ appropriate measures to ensure that the application of science and technology to development would lead to a constant increase in the well-being of the entire population on the basis of its full participation in the process of development.7/

A.56. Organizations within the United Nations system should harmonise their efforts and co-ordinate their activities so as to proceed to the rapid implementation of recommendations and decisions of the United Nations system regarding the strengthening of the technological capacity of developing countries.

II. Strengthening the Science and Technology Capacities of the Developing Countries

Measures and mechanisms for strengthening the scientific and technological capacities of developing countries

Institutional arrangements

A.5. Each developing country, as may be required, should establish one or more bodies for science and technology policy-making and implementation supported at the highest level. They should have intimate linkages not only with research and development, but also with their mechanisms for evaluating, monitoring, screening and regulating the transfer of foreign technology, with science and technology information services, with the sources of funding and the productive sector. Such bodies should be as broadly based as possible and include representatives from all parties interested in the scientific and technological development process. Their functions should cover inter alia, the following:

(a) To formulate, promote and monitor the implementation of science and technology policies;

(b) To mobilize and/or secure funds and to allocate them to the various science and technology institutions in the light of national development priorities;

(c) To co-ordinate the activities of science and technology institutions and to ensure close linkages with the productive sector; and to promote the undertaking of joint research programmes and projects;

7/ See note on page 3 supra. Also for all sources mentioned below.

(d) To promote regional and international co-operation in science and technology, and in particular to strengthen scientific and technological co-operation among developing countries;

(e) To evaluate the social and cultural aspects of science and technology and the social cost-benefit ratio involved in the technological transfer and innovation;

(f) To improve the working conditions of the scientists and technologists with the provision for rewards and incentives so as to contribute to the solution of the brain drain problem;

(g) To ensure the full participation of women in the science and technology development process;

(h) To advise local education and training bodies and make projections for building up a capacity in human resources for science and technology development.

A.6. The bodies responsible for science and technology policy should have close working relationships with the authorities managing and planning social and economic development, particularly to ensure the integration of science and technology in development programme and to prevent science and technology efforts from being isolated from, or out of step with, other national development objectives.

A.7. Developing countries should, at the national level, ensure compatibility and co-ordination of the activities of the different components of the science and technology system, especially enterprises and research and development institutions, in long-term perspective. The establishment of national research and development corporations to act as intermediaries between research institutions, entrepreneurs and financing institutions should be explored.

A.8.(a) Additionally, developing countries, in setting up a national system of science and technology, should consider the establishment of appropriate institutional structures such as:

(i) A network comprising sectoral research and development institutions;

(ii) Scientific and technological information networks;

(iii) Specialized institutions in consultancy, design and engineering, pre investment and feasibility studies and management, administration and marketing.

(iv) Metrology, standardization, equipment maintenance and quality control agencies;

(v) Specialized institutions in the field of vertical transfer of technology as well as in the development of new products and capital goods;

(b) The national science and technology system should have, among others, the following objectives:

(i) Stimulation, in conformity with national priorities, of research and development by endogenous enterprises, particularly through the reorientation of governmental action regarding fiscal, financial and tax policies as well as through financing, subsidy, tax rebate and import policies;

(ii) Co-ordination of policies within the system to ensure optimal utilization of all inputs through an integrated use of the available natural, human and other national resources, with due regard to the need to protect and develop resources of the biosphere;

(iii) Creation and strengthening of national capacity to render consultancy, preinvestment and feasibility studies, administration and marketing services;

(iv) Creation of awareness, in the management of all research and development and production enterprises, of the need for optimal utilization of all equipment and machinery by setting up of technical teams for their maintenance and servicing.

A.26. Developing countries should strengthen and promote their own scientific and professional associations.

A.27. Developing countries should set up, as appropriate, a network of scientific and technological institutions or agencies which would carry out, in a co-operative manner, activities related to the whole gamut of scientific and technological activities such as development of an endogenous scientific and technological base, promotion of technological

innovation and research and development programmes, training, information systems, or negotiations with technology suppliers, including transnational corporations.

A.28. In order to ensure adequate institutional support, developing countries should adopt the following measures:

(a) Enable existing national centres for research and training to perform international functions;

(b) Strengthen the existing and encourage the establishment of new management and engineering consultancy organizations;

(c) Set up the associations required to assist national efforts to protect and upgrade traditional scientific and technological knowledge.

A.43. Direct linkages should be established between the research and development systems of developed and developing countries through co-operative arrangements. Such arrangements should provide for the undertaking of joint research and development programmes, which should be carried out to the maximum extent possible in developing countries, so as to exchange personnel and share results.

A.44. Developed countries should co-operate with developing countries in the process of restructuring and improving the existing international machinery or building-up new international institutions that are more responsive instruments for development and international co-operation in science and technology.

A.45. In order to develop and strengthen their scientific and technological co-operation, developed and developing countries should in appropriate cases, conclude and expand bilateral intergovernmental agreements, including long-term agreements, and set up joint intergovernmental commissions for this purpose.

A.45.bis. Co-operation between the scientific and technological associations of developed and developing countries should be encouraged.

A.55. International organizations should:

(a) Provide for meaningful consultations and exchanges of experience at the international forums on science and technology policies and planning;

(b) Provide, within their mandates, upon request by Member States, advisory and financial services for the formulation of science and technology policy and the building up of the corresponding institutional machinery;

(c) Facilitate co-ordination among institutions and organizations engaged in science and technology planning in developing countries;

(d) As and when required, develop appropriate analytical methods and techniques for assisting developing countries in determining priorities, planning, forecasting, data management and processing, and assessment of new developments relevant to science and technology activities, through programmes and institutions located in developing countries;

(e) Give more active consideration to the formulation of policy for finding solutions to the brain drain and mitigating the adverse consequences associated with it;

(f) Adopt appropriate measures to improve the capacity of existing centres and networks in science and technology, avoiding an undue proliferation of institutions. Such measures should:

(i) Make the activities of sectoral and regional research and development institutions of developed countries more responsive to the needs and problems of developing countries;

(ii) Strengthen the problem-solving capacity of developing countries in supplementing their national and regional science and technology institutions with adequate technical, financial and human resources.

Institutional arrangements to implement the structural transformations to be effected in international scientific and technological co-operation

Methodology for the implementation of an international co-operative programme for the application of science and technology

B.21. International co-operative programmes should be jointly designed and agreed upon by planners and scientific and technical specialists, appointed by the appropriate national authorities and should be executed by institutions selected by them, drawing mainly upon the manpower capacity of participating countries. Project execution and institutional

build-up projects may call for different funding procedures. These programmes and projects should, inter alia, be of the following kinds:

(a) Scientific and technological projects involving research and development;

(b) Training, specialization, updating and postgraduate programmes relating to science and technology;

(c) Strengthening of national, regional or subregional institutions;

(d) Promotion of specific activities such as information and technical assistance, services, and management of technology training operations;

(e) Promotion of the utilization of local or regional technology;

(f) Participation by specialists of international organizations should be sought in a supporting role and not in a managerial and decision-making role, unless otherwise decided by the Government of the developing country concerned.

B.22. To ensure that agreements concluded at the international level materialize into concrete results, implementation of these should be conducted [and*/][or**/***/ supported by institutional arrangements rooted at the national level, which are capable of implementing the structural transformations and decisions agreed upon during the Conference.

B.23. At the subregional and regional levels, adequate arrangements should be made:

(a) To define priorities;

(b) To design jointly programmes and projects;

(c) To promote multilateral scientific and technological activities;

(d) To provide co-ordination with other regions and countries, in such a way as to guarantee the proper balance of resources for every project and programme.

[B.24. The steps taken so far at the international level, and particularly within the United Nations system, to overcome the inadequacies of the system, have not paced sufficient emphasis on science and technology for development and their role as crucial factors in the development of developing countries. Therefore in order to reinforce national

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*/ Proposed by Group of 77 (G.77)
**/ Proposed by other parties
***/ Both proposals acceptable to Eastern European Countries.

efforts for accelerating the scientific and technological development of the developing countries, there is a need for an institutional arrangement within the United Nations system with the following elements:

(a) A high-level intergovernmental body open to membership by all States;

(b) Appropriate secretariat support;

(c) A financing mechanism or system with the necessary resources. [1]

[B.25. Through their own national and collective efforts as well as those of the international community as a whole, the developing countries should attain by the year 2000 the goal of carrying out 20 per cent of the world research and development. The intergovernmental Committee referred to below shall establish programmes of consultation involving all States with a view to the drawing up of concrete measures for the achievement of this goal.]

Transfer, acquisition and assessment of technology

A.9. Each developing country should formulate a policy on transfer and acquisition of technology as an integral part of its national policy for scientific and technological development. Such a policy should provide for a technological spectrum ranging from the most simple to the most advanced technologies and for the assimilation and adaptation of imported technology.

A.10 Further, developing countries should:

(a) Strengthen their capacities for the assessment of technologies from the point of view of their national development objectives;

(b) Strengthen their capacities to eliminate or [2] effectively deal with all restrictive [business] [3] [and] [4] practices.

A.11. (a) Developing countries should develop the capacity to unpackage technologies to be acquired so as:

(i) to make a financial evaluation of the different elements and an evaluation of their technical specifications;

(ii) to determine whether some items or services can be internally procured;[a]

(iii) to define alternative external sources of procurement and their conditions.[a]

(b) In this connexion, developing countries should also develop the capacity.

(i) to know in advance the amount of untied financial resources needed to finance what can be internally procured;

(ii) to plan the training of human resources to provide needed technological capacities and the establishment of those installations necessary to produce new products and capital goods;

(iii) to determine the contribution of imported technology to the development of the national technological base and its effect on the industrial structure of the recipient country and on the environment.

A.12.[b] Developing countries should, in accordance with their national policies and priorities, establish and strengthen national mechanisms for the assessment, transfer, acquisition and adaptation of foreign technologies, which could undertake the following tasks:

(a) formulate policy guidelines and regulation on transfer of technology;

(b) establish an integrated system for the selection and assessment of technologies and for the development of a capacity to unpackage technologies to be acquired;[c]

(c) (pending - depending on discussions on the confidentiality of information systems);

(d) promote the re-organization of the national legal structures for technology transfer, including the revision where necessary of the national legislation relating to industrial property, to promote domestic innovation;

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a/ The United States reserved its position on the inclusion of subparagraphs (ii) and (iii) under subparagraph (a).

b/ The United States, Canada and Switzerland stated that their agreement on paragraph A.12. is conditioned on the satisfactory negotiation on A.13. and A.13.bis. The EEC associated itself with this remark during discussions in the First Committee.

c/ The United States reserves its position on this subparagraph.

(e) adopt instruments for regulating and guiding the import of technology, not only in regard to direct and apparent transfers of technology, but also relating to [the technological components of][d/] technical assistance contracts, engineering services, investment and reinvestment [as well as invisible transactions and transfer pricing between foreign companies and their branches in developing countries;]

[(e) adopt measures for regulating and guiding the import of technology not only in respect to its direct transfer but also with respect to technical assistance contracts, engineering services, investment and reinvestment and other technology transactions]

(f) monitor investments, imports, monetary transfer, employment of foreign personnel, research and development in developing country branches of foreign enterprises and their co-operation with local research and development organizations;[e/]

(g) establish a system for compulsory registration of contracts and other technological transactions with foreign suppliers;

(h) participate in the negotiation of the purchase of technologies for the public sector and advise private enterprises in the acquisition of technology in order to maximize the value of such technology in meeting the economic and social needs of the country, and to avoid inappropriate or unnecessary purchases, excessive expenditures and clauses which may be harmful to national interests;

(i) promote the adaptation and assimilation of technologies and encourage increased utilization of local inputs, particularly national resources and sub-contracting;

(j) ensure the application of national standards and quality control requirements;

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d/ Words within brackets proposed by the United States. The Group of 77 reserved their position with respect to the words within brackets.

e/ The United States and Japan reserved their position on this subparagraph.

(k) assess the expected impact of choices of technology, including their social and environmental effects.

A.13.[f] National mechanisms for technology transfer, acquisition and development should be supported by a legal framework that, inter alia:

(a) Defines the national standards of technology transfer transactions;

(b) Lays down the rules governing direct investment, trade practices of technology transfer and industrial property rights;

(c) Promotes and encourages the increasing participation in the development process of national capacities in science and technology;

A.13. bis. [f] Les mécanismes nationaux devraient pouvoir s'appuyer sur des structures juridiques qui favorisent un climat propice au transfert, à l'acquisition et au développement de technologie. Ces structures devraient encourager et faciliter les transferts de technologie effectués selon des modalités convenues d'un commun accord, justes et raisonnables et devraient tenir dûment compte des droits et des obligations existants de toutes les parties en cause. Les mesures officielles devraient être conformes aux obligations consacrées par le droit, les traités et les accords internationaux; elles devraient être appliquées de manière équitable, de bonne foi, conformément aux procédures juridiques établies et sans discrimination. (8)[f]

A.14.[g] Developing countries should establish, as appropriate, machinery to effectively monitor, screen and evaluate imported technology including that from transnational corporations, with a view to ensuring maximization of domestic technological inputs. Such machinery could also ensure that activities of transnational corporations and other enterprises are consistent with the national socio-economic objectives and science and technology policies and ensure their maximum co-operation with developing countries. The objective of such machinery should be such that transnational corporations and other enterprises:[h]

(a) Do not impede but contribute to, the diffusion of technology within the country;

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[f] The United States stated that their agreement on paragraph A.13. is conditioned on the satisfactory negotiation of paragraph A.13. bis. Switzerland associated itself with this reservation during discussion in the First Committee.

[g] The United States stated that its agreement on paragraph A.14. is conditioned on the satisfactory negotiation on A.13 bis and of a general chapeau proposed by the United States to be included in the programme of action.

[h] The EEC reserved its position on the chapeau of A.14.

(b) Encourage subsidiaries to carry out research and development in developing countries and associate in this process local science and technology personnel;

(c) Give priority to the use of local raw materials, intermediate products, technology and personnel;

(d) Organize technical training programmes in the countries concerned;

[(e) Make available to the appropriate national entities information pertaining to the results of their research and development activities undertaken in developing countries;][1/]

[(e) Make available to the appropriate national entities general information with regard to the subject of their research and development activities undertaken in developing countries.][1/]

[(e) Disseminate more readily and widely information that is publicly available on the results of their research and development activities undertaken in developing countries.][1/]

(f) Undertake co-operative schemes, including joint ventures with developing countries enterprises and research and development institutions.

A.29. The appropriate subregional and regional organizations, including public and private consulting firms, should:

(a) Promote, catalyse and work on the transfer and assessment of technology at the entrepreneurial and research and development levels;

(b) Support and promote concerted actions among developing countries to [remove the present monopolistic control of developed countries on the existing structure of the international technology market (1)][strengthen their position in the international technology market, including their capacity to participate in and avail themselves of access to that market; (2)]

1/ The words in brackets were proposed by the Group of 77. The EEC and Canada reserved their position on the words within brackets.

(c) Programme and promote joint subregional and regional projects in productive and research and development sectors.

A.30. Developing countries should use, strengthen, and then necessary set up, subregional, regional and interregional centres for the transfer and development of technology. Linkages between subregional and regional organizations dealing with the transfer and the application of technology should be stimulated.

A.46. To achieve a real process of technology transfer which differs both in content and impact from a mere international dissemination of productive techniques and processes, developed countries should:

(a) Provide /full (1)/ /freest and fullest possible (3)/ access to all types of /available (3)/ technological know-how and to all /available (3)/ technologies /in the public domain and facilitate access by the developing countries, to the extent practicable, to technologies whose transfer is subject to private decision (7)/, not only to the basic and conventional technologies but also to the most complex and advanced, such as nuclear technology for peaceful uses /consistent with the principle of the non-proliferation of nuclear armaments (4)/ micro-electronic technology and space technology, under just and equitable conditions and with due consideration to the development needs of the recipient countries;

(b) /Take measures for the adoption of regulations aimed at preventing technology suppliers from applying restrictive practices on all technology transfers to developing countries; (1)/

/Encourage technology suppliers to refrain from restrictive (8)/ business /practices which would unreasonably restrain trade and adversely affect the international flow of technology, (8)/ particularly such practices as hinder the economic and technological development of developing countries.

(c) Eliminate technical barriers which discriminate against the importation of goods with a technological component exported by developing countries;

(d) [Grant preferential treatment to firms and industries of developing countries in the area of licensing, patent rights and know-how. (1)]

(d) bis Support [appropriate] [2/, as appropriate,] [2/ measures by developing countries to stimulate and create demand for technologies according to national priorities.

B.1. Developing countries should:

(a) Share their experience and co-ordinate their policies for the selection, acquisition, adaptation, assessment and development of technologies, as well as their domestic legislation on industrial property, foreign investments and transnational corporations;

(b) Co-operate in improving the conditions and terms for the acquisition of technology, machinery and equipment by joint purchase arrangements whenever feasible;

(c) Co-ordinate positions and co-operate on matters in the field of science and technology which are subject to international multilateral negotiations;

[(d) Essayer d'établir des conditions générales propices à la mise au point et au transfert des techniques, conformément aux priorités nationales. (1) [2/]]

B.2. (a) To provide the freest and fullest [possible (1)] access by developing countries to [available (1)] technologies that are essential to their development, including the advanced technologies, as well as to the achievements of modern science and technology;

(b) To [encourage (8)] [promote (1)] [ensure (1)] the supply of technology to developing countries on favourable terms and eliminate [so far as possible (6)] discriminatory and [unreasonably (1)] restrictive practices [conditions (7)];

(c) To provide incentives in accordance with national [policies (1)] [9/] laws and regulations to enterprises that transfer technologies

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1/ Agreed to by the Group of 77, Switzerland, Canada and Australia.
2/ Agreed to by the United States and the EEC.

to developing countries on fair and equitable terms and that encourage adaptation and assimilation involving maximum local contributions and thus enhance the autonomous scientific and technological capacities of the recipient country;

(d) To encourage and facilitate the transfer of technology by their small and medium-sized enterprises and the participation of such enterprises in co-operative schemes including joint ventures with corresponding public and private enterprises in developing countries;

(e) To co-operate with developing countries according to the priorities of the latter to strengthen the capacities of their institutions and enterprises to assist their technology needs and select, acquire, generate and apply technologies.

B.3. Developed countries should also [upon request (3)] make available to developing countries [whenever possible (4)] without charge or for nominal payment, technologies required by developing countries which are publicly owned [or (1)] [and (8)] freely available. Where such technologies are made subject to private decisions 7/ either by a process of packaging and control of know-how or by any other means, developed countries should [consider requests to (5)(8)] progressively decommercialise [to the extent practicable and desirable (5)(8)] such technologies transferred to developing countries. In this regard developed countries should establish [to the extent practicable (3)] up-to-date registers or similar mechanisms of non-commercial technologies in the public domain to which developing countries would be granted the fullest and freest access.

B.4. Governments of developed countries should co-operate closely with Governments of developing countries in [monitoring (1)] [and controlling (4)(1)] the activities of transnational corporations with a view to maximizing the effects of the contributions which transnational corporations can make to strengthening the science and technology capacities of developing countries, while avoiding any negative effects of these corporations. [Developed countries should contribute to the establishment of machinery for this purpose.(1)] [They should provide appropriate incentives and disincentives to transnational

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7/ The term "private decisions" in this particular context should be officially interpreted in the light of the codes of the respective country

corporations to ensure that their activities in developing countries conform to the national development objectives, technological policies and regulations of developing countries.[1]

B.5. All countries should fully recognize the sovereign right of each State to regulate and exercise authority [and jurisdiction (1)] [in accordance with national law, treaties and conventions (3)(8)] over the acquisition of foreign technology.

B.6. Organizations within the United Nations system should play a more active role in informing, advising and assisting developing countries in any region or subregion on all aspects related to the transfer of technology so as to enable them to obtain more favourable terms and conditions. Other international organizations should consider adopting a suitable policy. Measures should inter alia be taken:

B.6. (a) To strengthen their capacity to provide developing countries with information on alternative sources of technology, on the technical and scientific information contained in patents and on technology transfer agreements and their terms [taking into account the confidentiality which exists between supplier and recipient of technology (1) (5)] as well as analytical and evaluative data on transactions both between developed countries and between developed and developing countries, including the operations of transnational corporations.

(b) To provide assistance, including experienced personnel, to developing countries at their request, either singly or jointly, in the formulation, negotiation and implementation of projects for the transfer of technology, and to establish training and exchange programmes for nationals of those countries, in order to develop endogenous capacities in dealing with the transfer of technology, including negotiating and bargaining skills, technology assessment and information retrieval skills;

(c) To assist developing countries at their request in setting up suitable institutions to deal with the transfer of technology;

(d) To assist in the establishment, especially on a regional basis, of data banks and centres for the transfer and development of technology in order to supplement national support to assess, select, adapt, diffuse and create technologies suitable for developing countries, including the capacity to establish effective linkages between and within research and development and the productive sector;

(e) To [establish (a)] improve (b) [develop (c)], within the United Nations system, a [technology bank capacity (a)] [capacity (b)] through which technologies of special importance to developing countries are acquired and thereafter made available to developing countries under favourable conditions commensurate with their capacities and needs; r/

B.7. All countries should accelerate efforts towards the integration of an international [legal (a)] [normative (b)] framework that [guarantees (1)] [promotes (2)] a process of equitable transfer of knowledge and the strengthening of the science and technology capacities of developing countries. This includes inter alia an early finalization of:

(a) An international code of conduct on the transfer of technology;

(b) A code of conduction [related to (3)] transnational corporations;

(c) The revision of the Paris Convention for the Protection of Industrial Property;

(d) [The provision of copyrights on more favourable terms to developing countries in the field of science and technology; (1)]

[B.8. Governments of developed countries should take effective measures to ensure that transnational corporations whose headquarters are based in their countries suitably restructure and reorient their science and technology activities in developing countries to be in conformity with the host country's scientific and technological policies and inter alia ensure that they:

(a) Substantially increase research and development activities in their subsidiaries in a manner compatible with the research and development priorities of the host country;

(b) Contribute to the increase of research and development expenditures in developing countries through the full utilization of institutions in developing countries by entering into research and development contracts and similar arrangements;

(c) Provide for greater research and development co-operation between their subsidiaries and the network of national research and development institutions;

(d) Do not enter into technology transfer arrangements that would hinder or limit the access to and technological development of developing countries;

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r/ Australia and [illegible] with regard to the context and placement [illegible].

(e) Make available the fullest information to the Governments of host countries on the terms of technology transfer between them and their subsidiaries in an "unpackaged" form;

(f) Make available to the relevant comprehensive information systems of the United Nations all information on the terms of technology transfer to their subsidiaries and to local enterprises;

(g) Enable their subsidiaries to transfer technologies to local enterprises in the host country on favourable terms and conditions;

(h) Fully utilize consultancy, design and engineering organizations of the developing countries in the establishment and execution of projects in those countries;

(i) Co-operate with developing countries in their efforts to establish a "critical mass" of scientific, technological and managerial manpower through the institutions of in-plant training facilities, support to national training institutions and the like, and in the establishment and development of consultancy services;

(j) Replace scientists and technologists from developed countries in their subsidiaries by qualified personnel to the maximum extent possible, within an agreed time-frame (1)/

Scientific and technological information systems

A.15. National scientific and technological information systems should be formulated as an integral part of the overall national development plans. This should include responsibilities such as planning, programme development, co-ordination and stimulation of information activities. Such systems should also include among their functions the appropriate co-ordination with the international information networks.

A.16.1/ The national scientific and technological information systems should ensure the availability and dissemination of:

(a) Information required for development of science and technology;

(b) Information regarding the national capacity in science and technology;

1/ Reservation by Switzerland, Australia and the United States pending adoption of a satisfactory introductory note covering target areas A and B on the respect of legitimate interests of parties involved.

(c) Information pertaining to foreign sources of technology supply, its terms, conditions and costs of all major factors and components contributing to the use and application of technology, to enable comparative evaluations to be made.k/ 1/

(d) Information pertaining to sources of foreign capital and their conditions;

(e) Information pertaining to the national users of science and technology, such as enterprises, farms, co-operatives, trade unions, universities and technical schools.

A.17. Developing countries, in order to improve and intensify the exchange of information through person-to-person contacts, should promote and support scientific and professional associations.

A.18. Developing countries should strengthen and co-ordinate their agricultural and industrial extension services in order to achieve a more effective and more efficient transfer of information to the end-users, particularly in the rural areas, and to allow feedback to the research and development institutions concerned.

A.19. Special attention should also be paid to the establishment of comprehensive mechanisms to utilize mass media for bringing about a scientific temper and awareness of scientific knowledge as well as the promotion of creativity and innovation among the population. These should include, inter alia.

(a) Setting up of science museums, science and technology fairs and hobby centres, and releasing publications for children; all sectors of society should benefit from these activities;

(b) Publication and release of scientific and technological journals and books for the public and students at all levels;

(c) Public broadcast programmes, with the active participation of the scientific community.

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k/ United States called for linguistic changes in the text and suggests replacing "contributing to" by "resulting from".

1/ The EEC expressed the wish to reserve its position on subparagraph (c) and wishes to retain the phrase "while at the same time respecting the legitimate interests of the parties involved".

A.31. (a) Measures should be adopted with a view, inter alia, to organizing appropriate forms of awareness, on the part of the public, of the role of science and technology in the development process on the basis of, for instance, achievements of other developing countries as well as promoting subregional and regional scientific and technical publications;

(b) Measures should also be taken by developing countries to raise the awareness of the public at large in the developed countries of the problems experienced by developing countries in the process of achieving scientific and technological development.

A.32. In accordance with national laws and regulations, developing countries should establish suitable interlinked information networks and data banks which would, inter alia: enable exchanges of information on science and technology and on training and education programmes, conditions for the transfer of technology, terms of foreign investment, and activities of national and transnational corporations and enterprises in the field of science and technology. Such networks should provide for adequate co-ordination with international information networks.

A.33. Developing countries should share among themselves information and experience in the most relevant fields, such as agriculture, health, communications, industrialization and the like. They should establish co-operative arrangements and technical and managerial skills for sharing this information.

A.47. Information systems and networks to be established at subregional, regional, and international levels should ensure close linkages with the national information systems to provide all support for strengthening the national science and technology information capacity, including systems to facilitate access to technology information contained in patent documents through training, institution building and intergovernmental co-operation in classifying, publishing and exchanging such documents.

A.48. Subject to [national laws and regulations and][2/] international agreements to which they are signatories, both developed and developing countries should eliminate restrictions on the reproduction and translation of scientific and technical journals and materials.

A. 57. International organizations should act as a tool for systematic exchange of information on experiences of different countries in all fields pertaining to the application of science and technology for development. In this connexion, continuing consideration should be given to the establishment of a global and international information network within the United Nations system, where emphasis will be placed on priority needs of the developing countries. An outline of such a network is contained in target area B.

B. 9. s/ Developing countries, [in accordance with the rights and obligations of all parties involved] t/ should take the appropriate measures to stimulate the exchange and effective utilization of information among themselves on:

(a) Indigenous technologies and capacities to render technological services;

(b) Technology transfer transactions, including [general] u/ terms and conditions of transfer;

(c) Foreign financing and investment;

(d) Activities of transnational corporations;

(e) National policies, legislation and practices regarding the transfer of technology;

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s/ Reservation by Switzerland, Australia and the United States pending adoption of a satisfactory introductory note covering target areas A and B on the respect of legitimate interests of parties involved. In this respect the following texts were proposed:

By G77 "According to mutually agreed specific obligations in conformity with the national legislation of each developing country, regarding confidentiality of information"

By EEC Subject to proper concern for rights and obligations including confidentiality of information"

By USA "Measures by all governments, international institutions and other entities taken pursuant to recommendations adopted in this section of action must respect the rights and obligations of all parties concerned under national and international law, treaties and agreements. They should be applied equitably, with fairness and accordance with established procedures of law, with due regard to the protection of confidential information".

t/ Text proposed by the EEC.

u/ Text proposed by the United States of America, and would be prepared to withdraw it if text of chapeau is accepted.

(f) Criteria for the selection of technologies;

(g) Contracts, including completed as well as rejected proposals listed in the national registers;

(h) Experience in applying transferred technologies;

(i) The results of their science and technology policies and their research programme.

B. 10. Developed countries should:

(a) In view of the accumulation of scientific and technological knowledge in their countries, make those information resources which are readily accessible to their own nationals also readily accessible to users from developing countries.

(b) In regard to commercially available information, adopt measur and arrangements allowing developing countries to use their specialized information systems and acquire their publications at reasonable cost and, whenever possible, in local currency or free of charge;

(c) Provide the fullest possible access to available information on technologies, terms and conditions of supply, local technical and management requirements, and activities of transnational corporations and enterprises in the fields of science and technology.

Establishing of a global and international network

B. 11. The international [referral] [7] information network should be substantially developed within the framework of the United Nations system, so as to collect and provide information that is relevant to developing countries. In developing this internation information network, full use should be made of existing specialized information systems, services and programmes, especially those within the United Nations system, avoiding possible duplication. Such a network should include a series of sub-networks in each developed country.

B. 12. The scientific and technological international information network should include the following features:

(a) The network should be designed to meet particularly the need of the developing countries and to provide access to information for users who contribute to problem-solving activities and decisions relating to development;

(b) The network should operate inter alia as a channelling mechanism facilitating contact between users and suppliers of information;

(c) In each country there should exist one national focal point for its different sub-networks while at the same time there should be, at the world level, under the auspices of the United Nations, a global central focal point;

(d) Each national focal point will provide information-on-information to all national focal points. Users should be able to get the needed information, or information-on-information, normally from their national focal point and from other national focal points either directly or through their own national focal point;

(f) In cases of difficulty in getting a response from any other national point, the global central focal point should take measures to ensure the required information is provided;

(g) The global central focal point and individual country focal points should be managed by qualified personnel who are capable of easily, promptly and clearly understanding the requests for information and of directing the requests to the appropriate source;

(h) Each focal point should have the appropriate communication facilities so as to be able to receive or supply information as fast as needed, either directly through the individual national focal point or through the global one.

B.13. In establishing the international information network outlines above, all countries drawing up national scientific and technological policies and plans should include in them the development of programmes and activities for national information systems and networks.

National information systems and networks should aim to ensure access to and facilitate utilization of national and international sources of information on science and technology in order to stimulate endogenous development and national capacity for innovation and to support the assessment, transfer and adaptation of technology. This requires inter alia:

(a) The training of specialized manpower;

(b) The development of infrastructures including communication facilities, data banks, libraries, documentation centres, archives, back-up literature, hardware and software;

(c) The development of the necessary information-handling procedures and techniques, tools, methods, norms and standards;

(d) The improvement of stock of primary documents in developing countries, taking into account the establishment, when this proves necessary, of central libraries or documentation centres;

(e) That care should be taken that all countries should have access to the information systems of developed countries permitting research "on line".

B.14. Taking into account the urgency of the task, the scientific and technological international information network should be developed sequentially and in an evolutionary fashion so as to meet particularly the needs of the developing countries, ensuring the maximum availability of information such as:

(a) Information required for development of science and technology;

(b) Information regarding the national capacity in science and technology;

(c) Information pertaining to foreign sources of technology supply, its terms, conditions and costs of all major factors and components contributing to the use and application of technology, to enable comparative evaluations to be made;[v/] [w/] [x/]

(d)[y/] Information pertaining to sources of foreign capital investments and their conditions;

(e)[y/] Information on the specific interests and locations of national institutions, experimental farms, enterprises and organizations which use science and technology for development;

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v/ United States called for linguistic changes in the text and suggests adding, after the words "conditions and costs", the words "to the users".

w/ The EEC expressed the wish to reserve its position on subparagraph(c), and wishes to retain the phrase "while at the same time respecting the legitimate interests of the parties involved."

x/ Switzerland called for some changes, as United States of America, and suggested replacing the words "contributing to" by "resulting from", and, if accepted, would withdraw the word "[referral]" in para. B.11.

y/ The United States of America reserves its position subject to adoption of a chapeau on confidentiality.

(f) Technological information contained in patent documents;

(g) National programmes in science and technology.

B.15. The global and international information network should be so developed as to meet particularly the needs of the developing countries. Priority should be given to covering scientific, technical, socio-economic, legal and other aspects needed for decision-making in the selection and transfer of technology. The existing information systems within the United Nations and other international bodies set up for the exchange of scientific and technological information and which are also serving as industrial technology data banks should form an integral part of the proposed global network. Data from the developed and the developing countries on available technologies, conditions of licensing, identification of suitable experts, engineering and consultancy services and the like should be widely available so as to promote its effective utilisation, thereby strengthening the concept of the global international network.

B.16. The developing and the developed countries should participate in, and make better use of, the existing scientific and technical information systems and take such steps as would enable their own information systems coupled to the global information network and that all support is provided for the effective use of this global network.

Development of human resources

A.20. Developing countries should formulate policies for the establishment of a scientific and technological manpower capacity. Such policies should, inter alia:

(a) Give incentives to universities, research institutions and other educational institutions so that they may become more responsive to the problems of society, particularly by integrating them with the productive system and the cultural pattern of the country;

(b) Develop mechanisms and programmes for professional and technical updating, systematically organized at all levels, so as to train specialised personnel required to cover all the links in the chain that associates research and development with production and marketing;

(c) Facilitate constant [illegible], development and upgrading of their labour force so that they may be better able to [illegible] and benefit from the swift changes characteristic of the modern world. Relevant vocational [illegible] particular adequate training of researchers and technicians employed by production units, should be an essential element [illegible];

(d) Develop [illegible] managerial capacity in science and technology;

(e) Make a thorough evaluation, at [illegible] level, of the "brain drain" problem, including the migration of skilled manpower, with a view to identifying [illegible] for tackling the problem and reversing the exodus of the scientific and technological manpower.

A.[illegible] Developing countries in the framework of subregional, regional and interregional co-operative efforts should:

(a) Strengthen the exchange of scientific and technological knowledge through co-operative projects, seminars, conferences, graduate studies, [illegible] and the like, which involve scientific and technological work of intrinsic value to scientists from all the countries of a particular [illegible];

(b) Develop [illegible] linkage between scientists and technologists with the world scientific community, in order to stimulate and foster scientific and technological activities;

(c) [illegible] new education and training [illegible] and programmes [illegible], science and technology management;

(d) [illegible] of the causes, scope and repercussions of the [illegible] from developing to developed countries;

(e) [illegible] national and subregional training, [illegible] and technological centres;

(f) Increase the training facilities offered by developing countries [illegible] of other developing countries.

A.[illegible] Developed countries should:

(a) Co-operate with developing countries in training their scientists [illegible] the provision of fellowships for study

abroad and through training programmes in developing countries involving scientists and technologists from developed countries. Such exposure and training should be undertaken in conformity with the needs, priorities and specific conditions of developing countries;

(b) Train citizens of developing countries in technology management in appropriate institutions and in industrial plants located within their territories in order to promote the enhancement of production and services in developing countries;

(c) Facilitate and strengthen the awareness of their people of the need to understand fully the scientific and technological historical process, particularly through the provision of education on the development of scientific and technological cultures of developing countries. Developing countries could assist in this task;

(d) Increase significantly free training or fellowships for training or fellowships for training to students from the developing countries, both in developed and developing countries;

(e) Remove any discriminatory conditions affecting the training of personnel from developing countries;

[Text to be submitted in an addendum which will be issued later.]

(g) Co-operate in the implementation of major programmes relating to the problems of developing countries as identified by developing countries themselves for basic and field research work;

(h) Support the efforts undertaken by developing countries to establish national, subregional, regional and interregional centres of excellence in higher education and research.

A.58. International organizations should:

(a) Supplement the training of specialists in science and technology policy and its integration into planning, giving special attention to institutions of developing countries;

(b) Co-ordinate efficiently and rationally fellowship programmes under the various bodies of the United Nations system which offer research and training facilities to the nationals of developing countries in both developed and developing countries;

(c) Develop a world system for rewarding and honouring scientists and technologists whose contributions provide solutions to the major problems of developing countries.

III. Financial arrangements

A.21. Special efforts should be made to ensure that adequate resources are made available for the effective implementation of science and technology policies. In this connexion, as and when required, appropriate financial mechanisms may be established whose functions could include:

(a) Linkages with the users of science and technology through their participation in the formulation and execution of projects;

(b) Special arrangments to ensure continuous financing for science and technology;

(c) The procurement of financial resources for national research and development activities;

(d) The procurement and utilization of funds from public and private international sources, international agencies, organizations and the United Nations system, which should comply with the overall national development objectives.

[A.22. The International Science and Technology Development Financing System as proposed in target area B should provide financial resources to supplement national scientific and technological financing capacities.]

A.35. In order to support the efforts by developing countries to strengthen the science and technology capacities, it is necessary that the overall financial inputs into the national science and technology system should be enhanced; further, the present funding mechanisms for this purpose are often inadequate both from qualitative and quantitative considerations. On the basis of the experience of developing countries that have received funds from the United Nations system and other international agencies as well as under the bilateral arrangements, there is need for a more effective financing within the United Nations system for strengthening the science and technology capacities of developing countries.

A.36. The regional development banks and international financial institutions are urged to increase substantially the funding of science and technology in developing countries.

A.37. Regional development banks and international financial institutions are urged to reorient their policies so as to encourage the maximum utilization of the regional, subregional and interregional scientific and technological capacities of developing countries. In this context, they should review or modify their criteria for evaluation, appraisal and approval of projects with a view to supporting research and development activities and innovative approaches within developing countries and to consider the provision of risk capital financing.[m]

[A.50. An essential requirement to attain the scientific and technological development of developing countries is the setting up of an International Science and Technology Development Financing System.]

[A.51. In order to contribute to the strengthening of science and technology capacity in developing countries, developed countries should reorient their financial policies, redeploy resources from the arms race and armament research and participate effectively in international funding arrangements on the basis of economic parameters that reflect adequately the prevailing asymmetry in technological capacities between developed and developing countries.]

[A.52. Developed countries should devote on an annual basis 0.05 per cent of their gross national product to the solution of scientific and technological problems of developing countries. They should also devote at least 10 per cent of their research and development expenditure to programmes designed to solve problems of specific interest to developing countries.]

A.53. Developed countries are urged to:

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[m] The Japanese delegation suggest the following words to replace the last three words: "the necessary capital and technical assistance."

(a) Through individual or joint action, untie grants, soft loans, credits and any other forms of development aid as well as their contributions to international financing institutions and foundations so as to facilitate the utilization and subsequent strengthening of the endogenous scientific and technological capacities of developing countries;

(b) Ensure the maximization of the use of local technologies and services required in a development project in the developing countries where the projects are set up;

(c) Encourage the strengthening of regional, subregional and interregional co-operation in the field of science and technology by means of increasing the volume and improving the terms and conditions of financing the programmes undertaken by developing countries at those levels.

A.59. International financial institutions [should] [are urged to]:

(a) Establish suitable techniques, methodologies, new practices and instruments for the evaluation of expenditure and budget programming in order to incorporate scientific and technological considerations into the process;

(b) Place increased emphasis on lending for science and technology for development and in that context indicate the order of magnitude for such loans;

[(c) Untie science and technology development finance given to developing countries;]

[(c) bis Envisage financing science and technology for development in such a way that the use of local technologies and services can be maximized;]

(d) Envisage financing local procurement as well as foreign elements for national science and technology projects and ensure that there is adequate provision of funds for building the necessary science and technology infrastructure and for research and development in the related sectors of the developing country concerned;

[(e) Contribute to the International Science and Technology Development Finance System proposed in target area 5.]

B.26. [It is necessary to have an effective financial mechanism or system to assist in the implementation of the measures recommended in this action programme, including regional and subregional projects. This mechanism or system should have the following characteristics:

(a) It should be used for the strengthening of scientific and technological capacities of developing countries, including the acquisition of technology;

(b) It should mobilize and channel all types of financial resources, particularly from developed countries;

(c) Its resources should be substantial and supplementary to the resources that now exist, and furnished on a predictable, automatic and continuous basis;

(d) The volume of its financial resources should be sufficient to contribute effectively to the implementation of the measures contemplated in the Programme of Action. An initial target must be determined;

(e) It should be set up within the United Nations system, in such a way as to be duly co-ordinated with the competent organs of that system, and independent in its operation;

(f) The developing countries should be enabled to participate fully in its operation. (1)]

Global financial arrangements

C.21. The Conference recommends that the General Assembly of the United Nations establish a financing system for Science and Technology for Development.

(a) Objectives

C.22. The financing system shall finance a broad range of activities aimed at strengthening the endogenous scientific and technological capacities of developing countries and in particular to assist in the implementation of the measures envisaged in this Programme of Action. Those activities shall be complementary to bilateral and multilateral programmes for science and technology and supportive of the national efforts of the developing countries in the fields of science and technology. It shall be a vehicle for the mobilization, co-ordination, channelling and disbursement of financial resources.

(b) Resources of the financing system

C.23. The Conference agrees that in determining the nature and level of the resources of the financing system, the following considerations should be taken into account:

(a) The asymmetry of the technological capacity between developed and developing countries;

(b) The need for predictability and continuous flow of financial resources;

(c) The need for substantial resources in addition to those that now exist within the United Nations system;

(d) The need for untied external resources for the scientific and technological development of the developing countries.

(c) Other financial resources

C.24. The financing system may enter into arrangements with international, regional and other public and private financial institutions with a view to the generation and channelling of additional resources to the developing countries for scientific and technological activities including research and development, and the commercialization and acquisition of technology.

C.25. The resources to be derived from these arrangements should be supplementary to the System's own resources. Such resources could be provided by:

(a) International and regional financial institutions;

(b) Public and private banks of national, regional and international types;

(c) Public and private corporations;

(d) Other public and private financial institutions.

C.26. Additionally, the System may use other resources, such as:

(a) Resources that may accrue from concrete progress on all measures towards general and complete disarmament, including the urgent implementation of the already agreed disarmament measures;

(b) Resources that may accrue from the proposed "international labour compensatory facility" related to the reverse transfer of technology.

Allocation of resources for the interim and long-term arrangements

C.27. The resources available should be allocated to the various activities identified in this Programme of Action, including national, regional, subregional and interregional activities. In the context of decisions of the General Assembly on interim and long-term arrangements to be taken at its thirty-fourth and thirty-sixth sessions respectively, the Intergovernmental Committee will establish guidelines for the allocation and the distribution of resources for the building up of the endogenous scientific and technological capacity of developing countries. These guidelines should be within the framework of the priorities of the developing countries, at the national, regional, subregional and international levels, for implementing in particular different types of projects and programmes of direct relevance to the developing countries, taking into account inter alia the need to take special measures to meet the urgent and specific problems of the least developed, land-locked, island and most seriously affected developing countries and the need to overcome poverty and to accelerate the development of the developing countries as well as other criteria to be adopted by the Intergovernmental Committee. Additional criteria for the allocation of resources should provide inter alia for a part of the resources to be applied to high-risk research and development science and technology projects at the national, regional, subregional and interregional level and to provide support for the developing countries in obtaining financial resources from other sources.

C.28. In view of the above considerations, the Conference decides as follows:

Long-term arrangements to start in January 1982

(a) The directing and policy making body of the financing system for Science and Technology for Development shall be the Intergovernmental Committee on Science and Technology for Development. The Intergovernmental Committee should, taking into consideration the results of the study

described in paragraph C.28 (b), define the guiding principles, the general economic provisions, the forms of operations, and the general procedures for the formulation, submission, consideration and approval of programme and projects. The Intergovernmental Committee on Science and Technology for Development shall submit to the General Assembly recommendations regarding the approximate structure for the executive body of the financing system.

(b) The General Assembly should, at its thirty-fourth session, create an intergovernmental group of experts, determined on the basis of equitable geographical distribution, and with the support of the Director-General for Development and International Economic Co-operation to undertake a prompt and thorough study of all relevant arrangements for the operation of a financing system for Science and Technology for Development.

The terms of reference for the study would be as follows:

(i) The study would make an assessment of the requirements for additional funding for science and technology activities in developing countries and of potential sources of funding.

(ii) The study would include an inventory of existing multilateral and bilateral programmes for providing financial support for such activities.

(iii) The study would review alternative proposals, including all the proposals put to this Conference by the Group of 77*/ for generating requisite additional funds for science and technology development activities on a long-term basis and for the disbursement and control of those funds, as well as those for institutional arrangements, and make recommendations thereon.

The study would be submitted for consideration to the Intergovernmental Committee on Science and Technology for Development for its consideration and for making appropriate recommendations which would be presented to the General Assembly at its thirty-sixth session for decision.

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*/ Paragraphs A.22, A.38, A.50, A.59, B.26, C.26 to C.27 of document A/CONF.81/L.1.

Interim Arrangements

(c) Pending the establishment of the long-term arrangements for the financing system for science and technology for development an Interim Fund will be created to be sustained by voluntary contributons. The Conference agrees that the target for voluntary contributions for the two year period, 1980 and 1981, be [no less than $250 million]. [During the interim period to the extent that such funds are fully committed and additional projects of high quality are presented for funding, the $250 million figure will be reviewed with a view to raising additional resources on a voluntary basis.] [$400 and $600 million].

(d) The Interim Fund which shall be created on a separate basis shall be administered by the UNDP under policy guidelines to be established by the General Assembly at its thirty-fourth session and also the guidelines of the Intergovernmental Committee when it starts its meetings. The Administrator of UNDP, in Consultation with the Director General for Development and International Economic Co-operation, shall prepare an initial prospectus for the operation of the Interim Fund to be submitted to the thirty-fourth session of the General Assembly for its decision. The Secretary-General is requested to call a pledging Conference before the end of 1979. The General Assembly should provide the Administrator of UNDP with the necessary resources for these initial preparatory responsibilities until the Fund is in operation.

C.29. The Conference agrees that the establishment of interim arrangements should not prejudice the ultimate decisions with regard to long-term arrangements.

IV. INTERNATIONAL CO-OPERATION

Subregional, regional and interregional levels

Scope and dimensions of scientific and technological co-operation policy

A.23. Collective self-reliance among developing countries is a multidimensional process requiring the adoption of policies and action-oriented measures that are both bilateral and multilateral in scope, with a view to strengthening the internal capacities of developing countries and improving their bargaining position. Accordingly, this concept entails:

(a) The formulation of a scientific and technological policy framework through which their own financial, natural and human resources may become fully effective;

(b) The adoption of policies to encourage greater co-operation among themselves in establishing interlinked scientific and technological institutions, not only as a means to enhance absorptive capacity but also as a condition for undertaking joint programmes and projects;

(c) The stimulation of co-operation regarding topics and priorities chosen among themselves on the basis of specific programmes and projects designed jointly by means of technical meetings financed by international funds. These projects should take into account the need for complementarity among the capacities existing in the participating countries;

(d) Developing countries should, whenever ready to do so, substantially expand the flow of financial and/or technical assistance support to the least developed countries.

Major elements of science and technology co-operation policies

A.24. Subregional, regional and interregional co-operation aimed at increasing the scientific and technological capacities of developing countries should take into account the following elements:

(a) The need mutually to reinforce efforts to build their autonomous scientific and technological capacities by granting preferential treatment among themselves in the field of science and technology;

(b) The co-ordination of training of human resources, specialization, updating and on-going education activities;

(c) The rationalization and strengthening of the existing regional and subregional research and development institutions and effective use of sectoral projects;

(d) The need to promote the management of technology among the countries of the region;

(e) The need to initiate projects involving co-operation among two or more developing countries of the same or different regions;

(f) The channelling of information of scientific knowledge and technological invention achieved in the developing countries, as well as a better system of information stemming from all the industrialized countries;

(g) The promotion of scientific and technological meetings, which can give rise to further action;

(h) The need to prepare a set of measures with a view to enhancing the co-operation among all the developing countries in the different regions, including possible enlargements of existing mechanisms for such co-operation.

Measures and mechanisms for strengthening the scientific and technological capacities of developing countries at subregional, regional and interregional levels

A.25. In order to strengthen and safeguard the legitimate scientific and technological interests and increase national and collective self-reliance, developing countries should, to the maximum extent possible:

(a) Undertake joint initiatives relating to the exploration and utilization of their natural and other resources;

(b) Stimulate and establish joint industrial projects, with the objective of maximizing the results of utilization of their resources, capital and skills, including suitable management and marketing arrangements;

(c) Establish subregional and regional "skilled manpower inventories";

(d) Stimulate and promote transfer of scientific knowledge and technology among the countries of the subregions and regions;

(e) Undertake appropriate regional development projects which require a significantly high scientific and technological input;

(f) Take special measures in the context of greater horizontal linkages between developing countries, bearing in mind in particular the special needs of the least developed, land-locked, most seriously affected and island developing countries.

International level

Role of developed countries in the process of strengthening the scientific and technological capacities of developing countries

Major elements of scientific and technological co-operation policies

A.39. There is a need for action on the part of developed countries to support and facilitate the internal efforts of developing countries to achieve development through the establishment of endogenous scientific and technological capacities. Such action should be geared towards sharing of knowledge and experience and the enhancement of the range of options available to developing countries in the process of achieving their nationally defined development goals.

A.40. Developed countries should, in this context, support scientific and technological research aimed to solving the problems of developing countries, which should be carried out, to the maximum extent possible, within those countries. Further, such research in developing countries should be congruent with national, subregional or regional priorities and should be carried out with effective, appropriate planning, participation and control of the appropriate national institutions of developing countries.

A.41. New forms of co-operation that reflect the interests and aspirations of developing countries should be promoted. Such an approach should include an intensive participation and initiative of developing countries in the designing, orientation and implementation of science and technology co-operative activities. It could materialize in comprehensive agreements, including long-term agreements, covering technology, finance production and trade.

A.42. This approach to international co-operation should translate itself into the adoption of action-oriented measures by developed countries with the following objectives.

(a) To make available, in a systematic manner in accordance with their national laws and regulations, the results of their research and development, relevant to the social and economic development of developing countries;

(b) To increase substantially the proportion of their research and development expenditures and efforts devoted to the solution of jointly identified specific problems of primary interest to developing countries in accordance with objectives and priorities set by each Government of the developing countries. Research and development efforts of developed countries devoted to the problems of developing countries should be consistent with the priorities of developing countries and should provide for the active participation of developing countries in their design, planning, execution and evaluation.

(c) To provide substantially increased support to developing countries in enhancing their scientific and technological capacities for the production and marketing of capital goods.[n/]

Promotion of international scientific and technological co-operation for development

Elements of international co-operation in science and technology

B.17. The following arrangements for effective international co-operation should be encouraged:

(a) Co-operative activities aimed at the development of mutually beneficial and user-oriented information systems in areas of major scientific and technological concern, which are of particular importance to developing countries, at the subregional, regional, interregional and international levels;

(b) Bilateral scientific and technological co-operation arrangements providing for the exchange of scientific and technical personnel between institutions with the same objectives or activities; information about such bilateral co-operation should also be exchanged;

(c) Personal contacts and continuing working relationships between scientists and technologists and between scientific and technological societies and associations of developed and developing countries.

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n/ Reservation by the United States and the EEC.

Action by developing countries

B.8. Developing countries cover a wide spectrum of development needs and scientific and technological infrastructure and capacities. They can learn much from each other's experience in applying science and technology to development. To enhance their science and technology co-operation, developing countries should:

(a) Promote mutual consultation and systematic exchange of information concerning their experience in science policy and planning, building scientific and technological infrastructure, and the acquisition, development and application of scientific and technological knowledge;

(b) Strengthen the existing and establish, develop and promote new consulting firms and services relevant to the area of science and technology;

(c) Make arrangements to facilitate the dissemination and exchange of science and technology knowledge and experience originating in the developing countries so that the comparative advantages and specializations of various countries or sectors can be fully utilized;

(d) Arrange for the training and exchange of science and technology personnel;

(e) Whenever possible, establish associations of research councils and joint research and development centres in areas of common interest, and provide for the exchange of recently developed science and technology knowledge;

(f) Promote science and technology projects among developing countries with similarities in natural and social factor endowments;

(g) Compile inventories of their science and technology resources and capacities for collective self-reliance in science and technology for development, and encourage their exchange.

Action by developed countries

B.9. (a) Developed countries should devote more resources to the solution of problems relevant to developing countries, and to co-operative projects between developing and developed countries; priority should be given to those projects which contribute the

most to strengthening and promoting scientific and technological capacities in developing countries;

(b) The choice and mode of implementing co-operative projects should accord with the development priorities determined by the developing countries themselves;

(c) Training programmes for nationals from developing countries should emphasize those areas and disciplines for which there is a clear need in the developing countries as determined by developing countries themselves;

(d) The leader of a co-operative project undertaken in a developing country should be a national of that country, who should be responsible for its management and technical control. When this is not immediately possible, the project should include the training of local managerial and technical personnel;

(e) The choice of any foreign consulting firm and/or consultant required by the developing countries should be made by the country itself unless otherwise mutually agreed;

(f) Sponsoring agencies in developed countries should accept that any science and technology co-operative project in a developing country should be undertaken jointly with the participation and control of local institutions to ensure that the project and its execution conform to the rational interest, laws and regulations of the developing country concerned;

(g) Co-operation projects conducted in developed country laboratories or research institutions should involve scientists from the participating developing country. In the elaboration of the terms and conditions of the agreements concerning such projects, due regard should be paid to the objective of including provisions for the transfer of results to the participating developing country and their application there on a preferential basis. Conditions for commercial exploitation of the results of co-operative research should be determined by the co-operating parties. Due recognition to the developing country partner should be given in the patents covering such results;

(h) In cases where the raw data pertaining to a developing country partner collected in the course of a co-operative project are considered

by that developing country partner to be sensitive from its security or economic point of view, the decision to release such data or information should be at the discretion of the developing country partner. Publication of analyses and conclusions should be a joint undertaking;*/

(i) Co-operative projects should not be conducted when the developing country is used as a testing ground for new scientific concepts or technical innovations, without potential for benefit to its development;

(j) Whenever a co-operative project involves research in drugs, chemosterilants, pesticides etc., in a developing country, it should conform not only to the current regulations and ethical requirements in the developing country but also to the regulations of the developed country as well as those accepted internationally unless an explicit decision to the contrary is taken by the developing country partner;

(k) Identification and assessment of the ecological implications of co-operative programmes should be an integral part of the programme itself. Co-operative research conducted in a developing country should conform to the environmental standards adopted by the developing country concerned;

(l) Co-operative programmes should be flexible so as to allow the developing country concerned to choose the combination of inputs (expert, equipment, training etc.) best suited to its specific needs;

(m) Scientific and technological co-operation should not be used to impose any particular political or economic system on developing countries.

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*/ USA suggests the addition of the following words at the end of the subparagraph: 'except by prior agreement'. Otherwise it reserves its position on the subparagraph.

V. INTERNATIONAL ORGANIZATIONS

Role of international organizations

A.54. International organizations, and especially those of the United Nations system, should support, on a subregional, regional and interregional basis, the establishment, strengthening and development of the science and technology capacities of developing countries.

Action by international and regional organizations

B.20. (a) Co-operation with the United Nations and other international organizations should contribute to the upgrading of developing country policy-making and managerial capacities and the infrastructure necessary for the scientific and technological development, thus reducing their technological dependence on foreign entities;

(b) Co-operative projects undertaken with international agencies and organizations should be in accordance with the national plans and priorities of the developing countries. Inputs of the United Nations organizations should be co-ordinated with other projects launched through international co-operation, so as to increase their contribution to development programmes of the developing countries;

(c) Greater use should be made by international organizations of the expertise in developing countries, including consultancy organizations of all kinds;

(d) International organizations should support the aim of local scientific personnel taking over responsibility as soon as possible for continued functioning of projects launched through international co-operation;

(e) The choice of experts should take into account the dynamically changing needs of developing countries, and those countries themselves should be encouraged to make the choice of experts;

(f) Training usually best accomplished within developing countries themselves. Where outside science and technology training is needed, regional facilities and capacities should be utilized on a priority basis;

(g) Science and technology programmes of organizations of the United Nations system should not be influenced by or be intended to serve third party commercial interests, or any other interest contrary to the interests of the goals of the United Nations system. To ensure that this is so, the nature, scope and conditions of all contributions made by commercial enterprises to scientific and technological programmes undertaken by the organizations mentioned above should be made public. Organizations of the United Nations system should not undertaken research projects at the instance of a third party, unless complete information about the interests of the third party is made freely available;

(h) Exchange of experience and co-operative projects between and among developing countries should be encouraged to build up collective self-reliance. Regional centres are valuable instruments for pooling resources, talents and facilities and for working out problems of mutual regional interest through a network of collaborating institutions from all participating countries.

B.21. (f) Participation by specialists of international organizations should be sought in a supporting role and not in a managerial and decision-making role, unless otherwise decided by the Government of the developing country concerned.

Policy formulation and guidance

C.1. The organs, organizations and bodies within the United Nations system should, in accordance with the Programme of Action of this Conference:

(a) Evolve special policies and measures and appropriate institutional arrangements to ensure inter-sectoral programming and co-ordination of the scientific and technological activities of the various United Nations bodies and agencies, having due regard for the different development styles and priorities of individual States, as well as for the need to co-ordinate United Nations programmes with national development plans so as to strengthen the scientific and technological capacities and the ensuing development of developing countries;

(b) Formulate or review and orient as may be required over-all harmonized science and technology policies in line with the development strategies required by the establishment of the New International Economic Order.

(c) Set up programmes for studies, research and publications on ethics and values in science and technology for development. Such programmes would, inter alia, endeavour to create positive conditions conducive to the development and assimilation of science and technology in conformity with the social and cultural milieu of the developing countries.

C.2. Each organization of the United Nations system should evolve a medium-term plan vertically compatible with the over-all science and technology policies in accordance with this Programme of Action; horizontal compatibility between the medium-term plans of the organizations, organs, and bodies within the United Nations system, should be ensured through interagency consultation. While formulating these plans, the organs, organizations and bodies within the United Nations system should strengthen their evaluation mechanisms in order to assess the effective contribution to the developing countries of the activities of the United Nations system in the field of science and technology and also to assess the participation of developing countries in the process of making effective future contributions. The Committee on Programme and Co-ordination would be associated with this work as appropriate.

C.3. Organizations of the United Nations system should draw up, in consultation with developing countries, lists of experts and advisory and engineering services in the developing countries and should make preferential use of these personnel and services in their technical and financial co-operation programmes.

C.4. The overall efficiency and effectiveness of the system should be achieved by effecting, inter alia, the following changes in the system:

(a) Improvement of existing mechanisms and/or setting up channels to enable the system to enhance its comprehension and knowledge of the efforts undertaken by developing countries to achieve a greater level of scientific and technological development;

(b) Co-ordination and harmonization of the system's policies, programmes and functions in the field of science and technology;

(c) Decentralization of the decision-making process for the strengthening of the regional commissions, in accordance with General Assembly resolution 32/197 of 20 December 1977, by entrusting to them;

(i) The rationalization of their subsidiary machinery in the field of science and technology;

(ii) The assumption of the role of team leadership for co-ordination of science and technology co-operation programmes at the regional level;

(iii) The provision of inputs for the policy-making process of the intergovernmental committees;

(iv) The responsibility for supporting developing countries, at their request, in identifying projects and preparing programmes for the promotion of scientific and technological co-operation among those countries;*/

(d) Co-ordination of the restructured regional commissions with subregional, regional, interregional and international co-operation organizations in the field of science and technology;

(e) Increasing the effective participation of developing countries in international organizations concerned with the application of science and technology to development, including the organization of interregional meetings on science and technology, in accordance with their established procedures and practices.

C.5. (a) Developing countries should be able to play a more effective role at the decision-making level in international organizations dealing with science and technology for development;

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*/ This applies to the regional commissions concerned.

(c) Developing countries, collectively, should be better represented, in accordance with the principles of the United Nations Charter, in particular at the executive and decision-making levels, in the various secretariats and secretariat organs in charge of the planning and execution of scientific and technological projects.

Technology transfer and assessment

C.6. The organs, organizations and bodies of the United Nations system should take the necessary action conducive to increasing the capacities of the developing countries in all aspects related to the transfer of technology, as and when required by developing countries themselves, including inter alia, the measures referred to in paragraph B.6.

Scientific and technological information systems

C.7. There is a need for strengthening the existing and developing new information centres and networks in developing countries. These activities could be effectively pursued within the organs, organizations and bodies of the United Nations system. The establishment of a global network of scientific and technological information should be carried out as specified in paragraphs B.11 through B.16 of Target Area B of this programme of action.

C.8. The organs, organizations and bodies of the United Nations system should improve the existing information services and provide measures to co-ordinate their effective utilization in the field of science and technology.

C.9. The organs, organizations and bodies of the United Nations system should further develop and co-ordinate their scientific and technological publications services in order to make available the most important world publications in the various scientific and technological disciplines, including publications for the popularization of science and technology, in all the official languages of the United Nations.

Development of human resources

C.10. The organs, organizations and bodies of the United Nations system should:

(a) Continue to support and increase the provision for scientific and technical training and education at all levels, national, subregional, regional and interregional, in order to strengthen local personnel and science and technology specialists, in particular by the provision of scholarship

(b) Expand opportunities for research and training offered both in developed and developing countries to nationals of developing countries so as to strengthen the research and training capabilities of developing countries through:

(i) the rationalization and co-ordination of existing fellowship programmes, and

(ii) the establishment of special international fellowships in science technology for development, linked to the financing system referred to in paragraphs C.21 to C.30;

(c) Assist developing countries to evaluate the brain problem, including the emigration of skilled manpower with a view to identifying measures for tackling the problem and reversing the exodus of scientific and technological technological manpower;

(d) Strengthen the status of existing prizes and create new awards to honour the scientists and technologists whose contributions provide solutions to the major problems of development;

(e) Play a major role in the development of higher education and scientific research and professional training in developing countries;

(f) Ensure that training programmes take place in developing countries on a priority basis;

(g) Strengt en support for national efforts to promote the full participation of women in the mobilization of all groups for the application of science and technology for development.

Institutional arrangements and structural transformations

C.11. The Conference recommends that the General Assembly of the United Nations should establish a high-level intergovernmental committee to be known as "the Intergovernmental Committee on Science and Technology for Development", which should assist it inter alia:*/

(a) To formulate policy guidelines for the harmonization of policies of the organs, organizations and bodies within the United Nations system in regard to scientific and technological activities, on the basis of the Programme of Action of the Conference and with a view to contributing to the establishment of the new International Economic Order;

(b) To promote the improvement of linkages among the organs, organizations and bodies within the United Nations system, with a view to ensuring the co-ordinated implementation of the Programme of Action;**/

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*/ At the same time the Conference recommends to the Economic and Social Council that its Committee on Science and Technology for Development should cease to exist.

**/ The Committee on Programme and Co-ordination and the Administrative Committee on Co-ordination should assist the Intergovernmental Committee at its request in accordance with their terms of reference.

(c) To identify priorities for activities within the Programme of Action with a view to facilitating effective and planning at national, subregional, regional, interregional and international levels;

(d) To prepare an operational plan for carrying out the Programme of Action;

(e) To monitor the activities and programmes related to science and technology within the organs, organizations and bodies of the United Nations system;

(f) To promote the optimum mobilization of resources in order to enable the organs, organizations and bodies within the United Nations system to carry out the activities of the Programme of Action;

(g) To initiate arrangements for the early identification and assessment of new scientific and technological developments which may affect adversely the development process as well as those that may have specific and potential importance for that process and the strengthening of the scientific and technological capacity of the developing countries;

(h) To give directives and policy-making guidance to the United Nations financing system for Science and Technology for Development referred to in paragraphs C.21 to C.29.

C.12. The Intergovernmental Committee shall be open to the participation of all States as full members. It shall meet once a year and shall submit its reports and recommendations to the General Assembly of the United Nations through the Economic and Social Council, which may transmit to the General Assembly such comments on the report as it may deem necessary particularly with regard to co-ordination. The Conference recommends that the representation of Member States in the Intergovernmental Committee be at a high level. All organs, organizations and bodies of the United Nations, including the regional commissions as well as the specialized agencies and the IAEA, shall be invited, in accordance with procedures established in the light of the relevant resolutions of the General Assembly and the relationship agreements, to participate in the Committee at a high level, preferably at the level of Heads of Secretariats. The Intergovernmental Committee may invite appropriate intergovernmental organizations, non-governmental organizations, and other organizations to participate according to procedures it will establish. The Director-General should be entrusted with the secretariat of the contributions of the organs, organizations and bodies of the United Nations as well as the specialized agencies and the IAEA.

C.13. The Intergovernmental Committee shall establish procedures and mechanisms which would ensure adequate and effective provision of scientific and technical expert advice to it. In this connexion, the terms of reference of the Advisory Committee on the Application of Science and Technology to Development should be modified as required with a view to enabling it to provide, upon the request of the Committee, all necessary assistance and advice.

C.14. The Director-General for Development and International Economic Co-operation of the United Nations should, within the framework of his mandate as defined by the General Assembly in its resolutions 32/197 of 20 December 1977 and 33/202 of 29 January 1979 be responsible for exercising over-all co-ordination at the Secretariat level within the United Nations system, in science and technology. In this connexion, there is need for secretariat support whose head should be at a high level to assist the Director-General in providing the necessary assistance to the Intergovernmenal Committee and in co-ordinating science and technology activities within the United Nations system. The Director-General, under the authority of the Secretary-General, should provide to the General Assembly at its thirty-fourth session a report on the organizational and financial implications. Taking into account the report, the General Assembly should allocate the resources, human and financial, necessary to provide for such a secretariat, drawing to the fullest extent possible on resources already existing within the United Nations, including the posts and budgetary resources of the Office for Science and Technology.

C.15. The Organs, organizations and bodies within the United Nations system and their training research and development institutions, should:

(a) Improve the existing and establish new linkages among themselves;

(b) Support the co-operative efforts undertaken by research and development and training institutions of developing countries and between them and developed countries, as requested;

(c) Provide assistance in strengthening the present academic science and technology institutions in developing countries and also set up the appropriate networks between those institutions and those related to information when they are needed;

(d) Support and facilitate study tours and exchange visits between scientists and technologists in developing countries;

(e) Co-operate in order to reinforce the existing or establish new arrangements to provide technical assistance, to developing countries in the field of science and technology.

C.16. In effecting structural transformations, United Nations programmes should pay special attention to the results of the following negotiations:

(a) The international code of conduct on the transfer of technology;

(b) The international code of conduct relating to transnational corporations;

(c) The revision of the Paris Convention for the Protection of Industrial Property.

C.17. Further, the organs, organizations and bodies of the United Nations system should take the necessary measures to achieve, inter alia, the following objectives of particular importance to developing countries:

(a) Assess and revise the existing procedures for the establishment, review and implementation of decisions and recommendations of international conferences relevant to the field of science and technology, with a view to an early establishment of the New International Economic Order;

(b) Strengthen existing and develop new research and development and consulting institutions in order to increase the generation and transfer of scientific and technical knowledge to developing countries;

(c) Mobilize world opinion in favour of a reduction of armaments and of the reallocation of scientific, technological and financial resources now being used for military purposes, to economic and social development, particularly for the benefit of developing countries;

(d) Assess advanced scientific achievements with the purpose of preventing their use in threatening world peace, and their impact on humanity and civilization anywhere in the world;

(e) Proceed to the rapid implementation of all resolutions adopted within the system relevant to the field of science and technology, including resolutions 87 (IV) and 112 (V) of the United Nations Conference on Trade and Development on strengthening the scientific and technological capacities of developing countries;

(f) Facilitate the access of developing countries to technical information already existing in documents such as those concerning patents and other information important to the transfer and use of technology.

C.18. The organs, organizations and bodies of the United Nations system should foster the involvement of scientists, experts and consultancy activities in developing countries.

C.19. The various United Nations organs and bodies should identify, in consultation with appropriate national science and technology agencies, the science and technology elements of the various development programmes undertaken by them in the developing countries, in order to facilitate the assessment and co-ordination of such elements by the responsible national agencies.

C.20. The Conference invites the General Assembly to initiate a basic study of the activities, mandates and working methods of all the various organs, organizations and bodies of the United Nations system in the field of science and technology for development and to examine on the possibilities of improving the efficiency of the system in this field.

Global financial arrangements

C.21. The Conference recommends that the General Assembly of the United Nations establish a financing system for Science and Technology for Development.

(a) Objectives

C.22. The financing system shall finance a broad range of activities aimed at strengthening the endogenous scientific and technological capacities of developing countries and in particular to assist in the implementation of the measures envisaged in this Programme of Action. Those activities shall be complementary to bilateral and multilateral programmes for science and technology and supportive of the national efforts of the developing countries in the fields of science and technology. It shall be a vehicle for the mobilization, co-ordination, channelling and disbursement of financial resources.

(b) Resouces of the financing system

C.23. The Conference agrees that in determining the nature and level of the resources of the financing system, the following considerations should be taken into account:

(a) The asymmetry of the technological capacity between developed and developing countries;

(b) The need for predictability and continuous flow of financial resources;

(c) The need for substantial resources for the scientific and technologica development of the developing countries.

(c) Other financial resources

C.24. The financing system amy enter into arrangements with international, regional and other public and private financial institutions with a view to the generation and channelling of additional resources to the developing countries for scientific and technological activities including research and development, and the commercialization and acquisition of technology.

C.25. The resources to be derived from these arrangements should be supplementary to the System's own resources. Such resources could be provided by :

(a) International and regional financial institutions

(b) Public and private banks of national, regional and international types;

(c) Public and private corporations;

(d) Other public and private financial institutions.

C.26. Additionally, the System may use other resources, such as:

(a) Resources that may accrue from concrete progress on all measures towards general and complete disarmament, including the urgent implementation of the already agreed disarmament measures;

(b) Resources that may accrue from the proposed "international labour compensatory facility" related to the reverse transfer of technology.

Allocation of resources for the interim and long-term arrangements

C.27. The resources available should be allocated to the various activities identified in this Programme of Action, including national, regional, subregional and interregional activities. In the context of decisions of the General Assembly on interim and long-term arrangements to be taken at its thirty-fourth and thirty-sixth sessions respectively, the Intergovernmental Committee will establish guidelines for the allocation and the distribution of resources for the building up of the endogenous scientific and technological capacity of developing countries. These guidelines should be within the framework of the priorities of the developing countries, at the national, regional, subregional and international levels, for implementing in particular different types of projects and programmes of direct relevance to the developing countries, taking into account inter alia the need to take special measures to meet the urgent and specific problems of the least developed, land-locked, island and most seriously affected developing countries and the need to overcome poverty and to accelerate the development of the developing countries as well as other criteria to be adopted by the Intergovernmental Committee. Additional criteria for the allocation of resources should provide inter alia for a part of the resources to be applied to high-risk research and development science and technology projects at the national, regional, subregional and interregional level and to provide support for the developing countries in obtainining financial resources from other sources:

C.28. In view of the above considerations, the Conference decides as follows:

Long-Term Arrangements to start in January 1982

(a) The directing and policy-making body of the financing system for Science and Technology for Development shall be the Intergovernmental Committee on Science and Technology for Development. The Intergovernmental Committee should, taking into consideration the results of the study described in paragraph C.28 (b), define the guiding principles, the general economic provisions, the forms of operations, and the general procedures for the formulation, submission, consideration and approval of programme and projects. The Intergovernmental Committee on Science and Technology for Development shall submit to the General Assembly recommendations regarding the appropriate structure for the executive body of the financing system.

(b) The General Assembly should, at its thirty-fourth session, create an intergovernmental group of experts, determined on the basis of equitable geographical distribution, and with the support of the Director-General for Development and International Economic Co-operation to undertake a prompt and thorough study of all relevant arrangements for the operation of a financing system for Science and Technology for Development.
The terms of reference for the study would be as follows:

(i) The study would make an assessment of the requirements for additional funding for science and technology activities in developing countries and of potential sources of funding.

(ii) The study would include an inventory of existing multilateral and bilateral programmes for providing financial support for such activities

(iii) The study would review alternative proposals, including all the proposals put to this Conference by the Group of 77, */ for generating requisite additional funds for science and technology development activities on a long-term basis and for the disbursement and control of those funds, as well as those for institutional arrangements, and make recommendations thereon.

The Study would be submitted for consideration to the Intergovernmental Committee on Science and Technology for Development for its consideration and for making appropriate recommendations which would be presented to the General Assembly at its thirt-sixth session for decision.

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*/ Paragraphs A.22, A.38, A.50. B.26, C.20 to C.27 of document A/CONF.81/L.1.

Interim Arrangements

(c) Pending the establishment of the long-term arrangements for the financing system for activities and technical co-operation for development an Interim Fund will be created to be sustained by voluntary contributions. The Conference agrees that the target for voluntary contributions for the two year period, 1980 and 1981, be (no less than $[illegible] million). (During the interim period to the extent that such funds are fully committed and additional projects of high quality are presented for funding, the $[illegible] million figure will be reviewed with a view to raising additional resources on a voluntary basis) ($400 and $600 million.)

(d) The Interim Fund which shall be created on a separate basis shall be administered by the UNDP and the policy guidelines to be established by the General Assembly at its thirty-fourth session and also the guidelines of the Intergovernmental Committee when it starts its meetings. The Administrator of UNDP, in consultation with the Director General for Development and International Economic Co-operation, shall prepare an initial prospectus for the operation of the Interim Fund to be submitted to the thirty-fourth session of the General Assembly for its decision. The Secretary-General is requested to call a pledging Conference before the end of 1979. The General Assembly should provide the Administrator of UNDP with the necessary resources for the initial preparatory responsibilities until the Fund is in operation.

C.29. The Conference agrees that the establishment of interim arrangements should not prejudice the ultimate decisions with regard to long-term arrangements.