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Science and technology
in the light
of the seventh Special
session
of the United Nations
General Assembly

Last year the General Assembly of the United Nations decided to hold a Special session in September 1975 dealing particularly with the problems of the poorest of its Member States. One week ago, this Seventh Special Session adjourned in New York. For the first time since the creation of the United Nations, the topic of Science and Technology has been one of the main subjects of discussion, at the same level as (I) international trade; (II) financing development and the international monetary reform; (IM) industrialization; (IV) food and agriculture; and (V) the restructuring of the United Nations System in the economic and social sectors.

When attempting in the following to present you the main findings of this meeting, I shall deal (and I hope you will forgive me), as requested by the Organizers, in over proportional length with the role of science and technology in the United Nations. The introduction of science and technology into the international political debate, constitutes, in my opinion, one of the major new characteristics of the present evolution of the United Nations scope and its future activities.

I. THE ROLE OF SCIENCE AND TECHNOLOGY IN THE UNITED NATIONS SYSTEM

a) *Sectorial aspects*

As no Provision had been made in the initial concept of the structures of the United Nations System, it had to blossom in a piece-meal fashion, as a result of the political pressures and on a sectorial basis. The major specialized agencies and other bodies of the United Nations System were created to deal with a particular sector of science and technology, for the benefit of developing countries: ILO has existed since 1920° FAO, UNESCO, WHO, IAEA, ITU, WMO and IMCO were established beginning in 1946.

In the United Nations, UNCTAD, UNIDO, UNITAR and recently UNEP, as well as CNRET, the CHBP also include some aspects of Science and Technology in their activities. Although there is some overlapping and some gaps, a great work has been and is being achieved through the operational programmes of these agencies and UN bodies.

b) *Level of the Economic and Social Council*

In 1964, after the Geneva Conference on Science and Technology for the Less Developed Areas, the Advisory Committee on the Application of Science and Technology to Development was created (ACAST), composed of 24 international experts; it provides general guidance on the priority areas for action in the field of Science and Technology. Its views have been summarized in the «World Plan of Action for the Application of Science and Technology to Development*» published in 1971. This Plan has been adapted to the particular priorities of each region by establishing Regional Plans of Action for the Application of Science and Technology to the Development of Latin America, Africa, Western and Eastern Asia and the Pacific. The main benefits of these Plans have been to facilitate the preparation, in each developing country, of national plans for Science and Technology to foster the implementation of the national economic plans.

In 1973, a Governmental Committee on Science and Technology for Development (CSTD) was created, composed of 54 Member States, which reports to the Economic and Social Council. My Office is mainly concerned with the secretariat of these Committees and the preparation of their work.

c) *Level of the General Assembly*

Since last year, Science and Technology have become a major concern of the General Assembly: in April 1974, at its Sixth Special Session, the General Assembly proclaimed the establishment of a «New International Economic Order» (A-RES 3201 -S-VI) which should be founded, among other principles, on: "Giving to the developing countries access to the achievement of modern science and technology, and promoting the transfer of technology, and the creation of indigenous technology for the benefit of the developing countries, in forms and in accordance with procedures which are suited to their economies.» As already mentioned, the recent Seventh Special Session of the General Assembly has included in its agenda an important chapter devoted to Science and Technology. Before we examine it in detail, I will recall some of the reasons why this topic has become of such concern in the political debate.

II. THE RATIONALE FOR THE GROWING IMPORTANCE OF SCIENCE AND TECHNOLOGY IN THE INTERNATIONAL DEBATE

Before their independence - and even still now in many cases - developing countries were exporting their raw materials to industrialized nations which - in turn - manufactured them, notably by using their knowledge of Science and Technology, and re-exported part of the finished products to the developing countries. This traditional scheme has generated, for centuries, increasing imbalances between advanced countries and developing countries.

Now the newly independent countries are determined to acquire the financial means required to foster their development, by struggling on two fronts:

a) First, by raising the prices of exports of their raw materials

and, therefore, improving their terms of trade;

b) Second, by endeavoring to manufacture, in their own

territory, their raw materials, to export them as finished or semi-

finished products. This requires the knowledge of sciences and the use of technologies. Therefore, the organisation of a better access to science and technology, or an easier transfer of both, is a key factor in the economic growth of developing countries. Unfortunately, many developing countries have no or very little own natural resources and have, therefore, no bargaining power at all. For the group of these countries, the United Nations is attempting to design special aid programmes. The international efforts had started, in the 1950's, by providing aid and technical assistance to the newly politically independent countries. Now, the emphasis is placed on rendering developing countries economically independent, by equipping them with their own means of production, through transfers of technology. This will enable them to become more self-sufficient, and to depend less on international goodwill, as funds for aid have a tendency for a relative reduction in the national budgets of the developed countries.

But transferring western technologies is not sufficient, because they are often not adapted to the particular needs of the developing countries. Their tastes, cultures are different, and their purchasing power is on average about one tenth of that of the consumers of most advanced countries. Therefore "Appropriate technologies» have to be developed, labour-intensive instead of capital-intensive, based on a relevant design of the products, on the use of local raw materials instead of synthetics, and as low costs compatible with the income of the majority of the consumers. At present, many products imported by developing countries are mostly designed by developed countries and can only fulfill the desires of restricted circles among the happy few of the developing countries consumers. An adaptation is therefore essential if we are to match the products with the socio-economic environment and the actual needs of the people of developing countries. For this purpose, it is essential to build up an indigenous capacity of scientists and engineers, composed of nationals of the developing countries. After having devoted their efforts to transfers and adaptations of technologies, their ultimate goal will be to innovate by creating new products. These innovations would have a powerful economic impact as a means to fulfill the real needs of the internal markets of developing countries, and also as a source of exports to developed countries always eager for innovations. I shall now turn to the conclusions of the recent Seventh Special Session of the United Nations General Assembly, which has dealt initially with five main problem areas: (1) international trade; (2) transfer of real resources for financing the development of developing countries and international monetary reform; (3) science and technology; (4) industrialization; (5) food and agriculture, and has added another item, co-operation between developing countries.

III. MAIN RESULTS OF THE GENERAL ASSEMBLY SEVENTH SPECIAL SESSION

A. SCIENCE AND TECHNOLOGY

The main decisions of the General Assembly at its Seventh Special Session concerning Science and Technology are summarized below:

a) *Infrastructure*

Developed countries should co-operate with developing countries in the establishment or strengthening of their scientific and technological infrastructure, particularly by contributing to the establishment of an industrial technological information bank, or regional and sectoral banks. The creation of an international centre for the exchange of technological information is also envisaged for the sharing of research findings relevant to developing countries.

b) *Research and development*

« Developed countries should significantly expand their assistance to developing countries for the direct support to their science and technology programmes, as well as increase substantially the proportion of their research and development devoted to specific problems of primary interest to developing countries and in the creation of suitable indigenous technology, in accordance with feasible targets to be agreed upon.» It is significant to observe that the General Assembly Special has taken again the «targets» which were first identified in the World Plan of Action and have been the subject of considerable discussion at the first and second sessions of the Committee on Science and Technology for Development (CSTD) in 1973 and 1974. You will recall that these targets were the following: i) To assist developing countries for the direct support of their science and technology programme. The proposed target was 0.05 per cent of the gross national product of developed countries, i.e. about 2,500 billion dollars x 0.05 per cent = 1.25 billion dollars;

ii) To increase the proportion of R and D to specific problems of interest to developing countries, the target proposed amounted to 5 per cent of the R and D expenditures of developed countries, i.e. about 60 billion dollars per year by 5 per cent = 3 billion dollars.

Instead of quoting figures which would have led to a new debate, the General Assembly has preferred to urge for «feasible targets».

The General Assembly also requested to study the possibility of establishing within the framework of the United Nations system, an international energy institute to assist all developing countries in energy resources research and development.

c) *Code of conduct for the transfer of technology*

«All States should co-operate in evolving an international code of conduct for the transfer of technology, corresponding, in particular, to the special needs of the developing countries, Work on such a code should therefore be continued within UNCTAD... with the objective of the adoption of a code of conduct prior to the end of 1977. International conventions on patents and trade marks should be ... revised, to meet, in particular, the special needs of the developing countries, ... and national patents systems should be brought in line with the international patent system in its revised form.»

The code of conduct is to be prepared by UNCTAD while patents conventions are within the responsibility of the World Intellectual Property Organization (WIPO). The texts have already been subject to ample discussions and it is hoped that the special session will provide a new impetus to this work.

d) *Informatique and science and technology information*
«Developed countries should facilitate access of developing countries on favourable terms and conditions and on an urgent basis, to 'informatique', to relevant information on advanced and other technologies suited to their specific needs as well as on the new uses of existing technology, new developments, and possibilities of adapting them to local needs.» My Office has prepared a proposal on a «Science and Technology Information System» to facilitate the transfer and assessment of technology which would be particularly relevant to this proposal.

e) *Access to technologies*
«Developed countries should give freest and fullest possible access to developing countries to technologies whose transfer is not subject to private decision.
Developed countries should improve the transparency of the industrial property market in order to facilitate the technological choices of developing countries. In this respect, relevant organizations of the United Nations system, with the collaboration of developed countries, should undertake projects in the fields of information, consultancy and training for the benefit of developing countries.»

f) *United Nations conference on science and technology for development*

The General Assembly Special Session supported the convening of «a United Nations conference on science and technology for development with the main objectives of strengthening the technological capacity of developing countries... adopting effective means for utilization of scientific and technological potentials... and providing instruments of co-operation to developing countries.»

This conference will take place probably in 1979. An Intergovernmental Working Group of the Committee on Science and Technology for Development in April of this year has proposed an agenda consisting of four main items:

- I. Science and Technology for development: transfer of technology; integration to socio-economic development; new progress
- II. Institutional arrangements and new forms of international co-operation in science and technology
- III. Utilization of the existing United Nations system to implement the goals
- IV. Science and technology and the future.

g) *The role of the United Nations*

The General Assembly Special Session stressed that the United Nations system should play a major role, with appropriate financing, in achieving the above stated objectives, in developing the scientific and technological cooperation between all States in order to ensure the application of science and technology to development. The work of the relevant United Nations bodies, in particular that of ILO, UNCTAD, UNIDO, UNESCO, FAO, WIPO and UNDP should be given urgent priority to facilitate the transfer and diffusion of technology. In addition, the United Nations Secretary-General should take steps to ensure that the technology and experience available within the United Nations system is widely disseminated and readily available to the developing countries in need of it.

B. INDUSTRIALIZATION

The proposals of the Special Session concerning industrialization are mainly directed towards the implementation of the decision taken at the Second General Conference of UNIDO, i.e. the «Lima Declaration» and the «Plan of Action on Industrial Development Co-operation». This Plan aims at providing developing countries with a share of 25 per cent of the world's industrial production in the year 2000, since, at present, the 104 developing countries have only a share of 7 per cent of this production.

a) *Redeployment of productive capacities*

To that effect, the Group of 77 proposed a «redeployment of certain productive capacities of the developed countries». For instance, the industries of developed countries which are less competitive internationally could move progressively into more viable lines of production or into other sectors of the economy, thus leading to structural adjustments within the developed countries, and to the creation of new industrial facilities in developing countries.

b) *Industrial co-operation*

The Group urged the definition of priority areas for industrial co-operation and to establish a system of consultation to that effect, which should be submitted to the UNIDO Industrial Development Board.

A study will be undertaken by Governments, through UNIDO, on the financial and technical cooperation methods geared to foster international industrial cooperation. Special attention should be given to the least developed, landlocked countries and to provide them with financial and technical resources.

c) *UNIDO*

The Group proposed that the United Nations Industrial Development Organisation (UNIDO) be converted into a specialized agency. This status would give more independence to the organisation and hopefully increase its financial as well as technical strength.

C. FOOD AND AGRICULTURE

The solution to world food problems lies primarily in increasing rapidly food production in the developing countries. To this end, urgent and necessary changes in the pattern of world food production and trade structures should be introduced. To achieve these objectives, developed countries are urged to substantially increase the volume of assistance to developing countries for agriculture and food production and to facilitate access to their markets for agricultural products.

a) *Aid target*

The principle of a minimum aid target of 10 million tons of food grains set for 1975-76 and the concept of forward planning of food aid on a triennial basis have been proposed.

Developed countries are urged to increase the grant component of their food aid and accept multilateral channelling of these resources at an expanding rate. In providing food grains and

finances on soft terms to developing countries in need of such assistance, developed countries should take into account the interests of the food-exporting developing countries, and include, purchases from the food-exporting developing countries.

Donor countries should also provide an aid of 1 million tons of plant nutrients during 1975-76 for the most seriously affected countries.

b) *Prices*

Developed countries should carry out both their bilateral and multilateral food aid channelling, under precise international rules and controls to prevent surplus disposal and other disruptive commercial markets practices which cause undue fluctuations of market prices. They should also accept the principle that food aid should be channelled on the basis of objective assessment of requirements of food-importing developing countries.

Developed countries should adopt a pricing policy which must ensure a regular supply of fertilizers to developing countries at a reasonable price, and promote investments in developing countries to improve the efficiency of their fertilizers and other agricultural industries.

c) *International Fund for Agricultural Development*

The contributions of developed countries and developing countries in a position to do so to the International Fund for Agricultural Development should reach the initial target of 1 billion SDR as soon as possible. Thereafter, increasing resources should be provided on a continuing basis to the Fund.

d) *World Food Security*

All countries should subscribe to the International Undertaking on World Food Security, and build up and maintain international food grain reserves, nationally held and strategically located in developing and developed importing and exporting countries, large enough to cover foreseeable major production shortfalls. Developed countries should provide the necessary assistance to developing countries to enable them to build up and maintain their shares of such reserves.

Developed and developing countries in a position to do so, should earmark stocks and/or funds to attain a target of 500,000 tons of food grains as international emergency reserve, to be deployed through multilateral channels for meeting crisis situations in developing countries.

RESTRUCTURING OF THE ECONOMIC AND SOCIAL SECTORS OF THE UNITED NATIONS SYSTEM

With a view to make the United Nations and the United Nations System of organizations more responsive to the new requirements and provisions of the decisions of the Seventh Special Session, the General Assembly launched a process of restructuring the United Nations system. This should make it more fully capable of dealing with the problems of international economic co-operation and development in a comprehensive and effective way.

The General Assembly at its Seventh Special Session last week accordingly established a new *Ad Hoc* Committee on the

Restructuring of the Economic and Social Sectors of the United Nations System. This will be a Committee of the whole of the General Assembly, open to all states and will start its work immediately. It has to inform during the coming months, while the General Assembly is still in session, of the work it will undertake and will submit its recommendations to the General Assembly at its 31st session, in the fall of 1976.

The new *Ad Hoc* Committee will deal essentially with Institutional Arrangements of the United Nations as far as the economic and social sectors are concerned, and one of the documents it will have before it will be the report of the Group of Experts entitled «A New United Nations Structure for Global Economic Co-operation» with which many a few will be familiar. The Committee will also take into account the results of forthcoming deliberations on Institutional Arrangements of UNCTAD, UNEP, and other relevant recommendations. This is a programme of work in which all United Nations organs including the United Nations agencies and the regional economic commissions will participate at the executive level. The report of the *Ad Hoc* Committee will first be submitted to the Economic and Social Council at its resumed session (early 1976).

CONCLUSIONS

The debates during the Seventh Special Session of the General Assembly as well as the resolutions adopted show that the fears for a confrontation have been replaced by a promising co-operation between rich and poor countries. Time has come for a world-wide spreading of the industrial productive capacity first in areas where oil is providing new capital resources, and second in the countries where international assistance can compensate the lack of capital, raw materials or skills.

I strongly believe that this uprising of technological activities in two thirds of the world's population during the next years is the only solution for the economic progress of mankind. I also think that these new developments will be of great benefit to the traditional industrialized countries which will find new opportunities for the expansion of their own depressed economies.

I sincerely hope that an institution such as «Pio Manzu» will contribute to put in perspective these new patterns of industrial development.

The United Nations could not carry out its difficult mandate effectively without the active interest and the moral support of non-governmental organizations like the «Pio Manzu» International Centre. The theme of this symposium is both timely and relevant. I should like to encourage you to continue with such stimulating exchanges of ideas for a better understanding of the problems which the world faces today.

The opinions expressed in this paper do not necessarily reflect those of the United Nations.