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PREPARATORY COMMITTEE FOR THE UNITED  
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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON  
SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

Suggestions submitted by Belgium

A. Institutional proposals

1. Current situation

- (a) The United Nations family does not as yet have an over-all science policy despite the efforts devoted to that end. However, there is machinery designed to avoid duplication which is effective in remedying the most obvious cases of overlapping effort. It is ill-equipped to cope with more insidious forms of duplication of activities, in particular those arising from too complicated a splitting up of responsibilities, often as a result of compromises reached through this machinery, especially meetings attended solely by the representatives of secretariats.
- (b) The policy of development through science is an important constituent of the development policy proper. Like the latter, it absolutely must be of an over-all nature. In its pursuit of socio-economic objectives, it cannot afford to have its effectiveness reduced by the limitations inherent in approaches that are incomplete either because they cover only discipline or because they disregard the interactions between the various components of physical and social systems. One cannot say that the United Nations family fully meets this condition at the present time.
- (c) The current rather unsatisfactory situation would probably become critical if it were to continue, whereas the action taken by the United Nations family in science and technology and their application to development would be stepped up after the Conference.

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Although up to now in science and technology the United Nations has principally confined itself to activities that are relatively limited in scope and somewhat on the margin of research proper (creation of infrastructure, publications, organization of meetings, training courses, grants, etc.), it is to be expected that these activities will be stepped up and will relate far more extensively to research planning and financing. This would be the case if the Conference were to approve the idea of launching four or five international research programmes concentrating on socio-economic development objectives.

- (d) It must be borne in mind that the United Nations scientific and technological potential is concentrated primarily in the specialized agencies and programmes of the United Nations. Agencies active in other fields in addition to research are in a position to provide a link at the stages of planning and utilization of results between the research itself and requirements in the sector for which they are responsible where the results will be applied. They are therefore the obvious executive bodies for the United Nations scientific and technological programmes. Over and above the restrictive partitioning sometimes resulting from excessive legalism in the delimitation of powers, it is therefore necessary to take full advantage, in accordance with a reasoned plan, of the capacities of the specialized organizations by allowing them to give free rein to their practical abilities and to concentrate their resources on their strong points.
- (e) The United Nations scientific and technical activities are financed from a large number of varied sources. At first sight it might appear attractive to have a single source of finance for these activities by way of extrabudgetary funds. However, since the thirty-second General Assembly of the United Nations has already taken steps towards the integration and harmonization of the financing of operational activities by such resources with the aim of overcoming the disadvantages connected with the increasing number of specialized development funds, the setting up of a new fund for science and technology would run counter to this effort. It could not even be justified by the desire for rationalization since this rationalization is in the process of being attained by other means.
- (f) It has sometimes been thought that international foundations would provide a way of getting round the disadvantages of the United Nations family (unwieldiness, bureaucracy, "politization", etc.). Although the pioneering role that private bodies, as a result of their flexibility of action, can play in new fields or in cases where known problems have to be tackled from a fresh angle should not be disregarded, it must be admitted that once activities in a sector start to expand a more official framework has advantages (relations between States having the prerogatives of public power, less risk of falling into paternalism, co-ordination with measures to be taken at national level, etc.).

## 2. Proposals

- (a) Coordination of the scientific and technical programmes and budgets of the agencies by a high-level intergovernmental body.

It would be desirable for the "Science and technology" aspect of all working programmes and budgets and the medium-term plans of the United Nations organizations to be examined by the same high-level intergovernmental body. This body, which should be consulted before the budgets and programmes are laid before the respective decision-making bodies, would make recommendations on the adjustments that should be made to ensure that the aims are consistent, the priorities defined on a family-wide scale are adhered to, duplication is avoided, there is optimum division of work between the various United Nations organizations and, where useful, the individual projects of different bodies are integrated in overall programmes.

Synchronization of the budget cycles of the agencies would facilitate this operation, although it would be no more than a preliminary step. All the member States of the United Nations should be able to attend meetings of the body responsible for this task, which could for example be one of the committees reporting to the Economic and Social Council such as the Committee for Programme and Coordination.

Its proceedings should be prepared by a secretariat consisting at least in part of staff seconded from the main organizations involved in this procedure and guided by a Board that would see to the preparation of adequate documentation for the meetings of the intergovernmental body and carry out the tasks entrusted to it by that body between its meetings.

(b) Preparation of a United Nations medium-term scientific and technical programme.

Within the secretariat referred to above, a special inter-agency task force should also be responsible for preparing an integrated programme covering all the scientific and technical activities of the United Nations family. This medium-term programme, accompanied by cost estimates and details of priorities for its implementation, would cover activities financed from ordinary resources and from extra-budgetary funds and should clearly define responsibilities for the implementation of sufficiently comprehensive groups of consistent tasks.

After approval by the intergovernmental body mentioned in (a) and by the other appropriate bodies, this integrated programme would serve as a reference document both for the organizations in the United Nations family in establishing their budgets, work, programmes and medium-term plans and for the intergovernmental body in its task of advising on these documents.

(c) Use of the organizational principle of a "project leader".

According to this principle, a single implementing body in the United Nations family would receive all the budgetary and extra-budgetary resources (the latter by way of existing development funds) assigned to a scientific and technical programme corresponding to a given task (e.g. science and technology for rural development), even if other implementing bodies were concerned in that programme. Tasks could be sub-contracted to those bodies that appeared capable of carrying them out with greater efficiency than the project leader.

This practice would ensure unified management of programmes, would overcome the disadvantages of the system of "primus inter pares" and would allow use to be made of specialized abilities, whichever UN agency might possess them.

B. Practical proposals

Introduction

1. Belgium considers that the third Prepcom provides a suitable opportunity for putting the work of the Conference on a firm practical footing.
  
2. Belgium suggests the study of a small number of international scientific programmes designed to attain socio-economic objectives of priority for development. This suggestion does not claim to cover all the measures likely to appear in a unanimously acceptable action plan, although the international scientific programmes could serve as a framework for projects on training, infrastructure development, the setting up of information systems, etc.

Structure of the programmes

3. The essential features of these international programmes would be as follows :
  - (a) Financing of research activities and in connection with them activities concerning training, scientific public service and information and the establishment of infrastructures;
  - (b) two ways of contributing to the programme : contributions in cash and in kind (the work of a research team financed by the contributing countries). These contributions in kind would have to be approved by the programme management;
  - (c) existence of a well-staffed secretariat capable of planning the research, monitoring the work and preparing changes of emphasis in the activities depending on the results obtained;
  - (d) responsibility for research and development activities until the results are transferred to the appropriate productive structures;

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- (e) appointment of an agency to serve as project leader for each programme, having the necessary budget and entitled to conclude contracts with other agencies for some sub-programmes;
  - (f) overall management of these programmes and allocation of the resources between them within an intergovernmental body (ECOSOC or one of its committees) having a Board and assisted by a secretariat consisting at least in part of staff seconded from the agencies.
4. Points 3 (a) - (f) outline in broad detail a scheme which is of course open to adjustments and modifications, especially in the light of factors that may emerge when the content of the programmes is specified in practical terms. The scheme will in any case have to be described in greater detail. However, it is important to ensure that these programmes retain the features that guarantee their effectiveness.

#### Content of the programmes

5. As initial proposals, Belgium suggests :
- (a) a programme on solar energy,
  - (b) a programme on rural development technologies,
  - (c) a programme on tropical diseases,
  - (d) a programme with a view to increasing food production,
  - (e) a programme concerning an inventory of natural resources.
6. The programmes in all these fields would of course have to incorporate activities already under way in the United Nations family. Consequently, a number of current activities financed from existing budgets would have to be at least partially reviewed and reorganized.

#### Programme on solar energy

7. Intensive work is in progress in the Community on this subject, including the seminar on solar energy to be held in Varese in March 1979 and the indirect action programme (planned budget for 1979-83 : 58 MUA.)

UNESCO's activities on solar energy are relatively modest. The UN/ECE is also organizing some work on this subject. There are numerous methods of using solar energy. Some make use of rather rudimentary technologies while others require highly sophisticated technologies.

8. A large part of the programme could be devoted to the evaluation of the requirements to be met and suitable technologies in view of the diversity of situations in the developing countries, and to the implementation of pilot projects.

Special emphasis will be placed on research designed to increase the reliability of collectors and conversion equipment and of their various components. One of the research subjects worthy of further study is the storage of the solar energy collected.

9. The following applications might be considered :

- solar refrigeration and cooking
- production of hydrogen and synthetic fuels
- electricity generation (with various technologies and power levels from 50 Kw to several MW)
- pumping, irrigation and production of drinking water
- industrial processes using solar energy, in particular for farming and food.

#### Programme on rural development technologies

10. Rural development is an essential part of the development strategies designed to combat poverty on a broad front. It can be facilitated by using specific technologies that are generally relatively unsophisticated, highly labour-intensive and have a low capital cost. A suitable choice of technologies can have the effect of redistributing income. These technologies include, for example, food storage and preservation techniques and techniques suited to small-scale industry.

International organizations active in this field in addition to UNESCO include the FAO, ILO and UNIDO, which concentrate respectively on agriculture, employment and industry.

11. For some years UNESCO has been active in this field. Amongst other things, it is studying housing and the use of microbiological techniques (fermented foods).

At the 20th General Conference in Paris in November 1978, the Secretariat was instructed to carry out a feasibility study on new procedures for the Organization's activities in connection with technologies applicable to rural development, for example an intergovernmental programme or other types of programmes.

12. UNIDO has prepared a Cooperative Programme of Action on Appropriate Industrial Technology, some parts of which are relevant to the field discussed here. This programme is intended to be implemented by the whole of the United Nations family. It includes projects in the following fields : comparison and evaluation of rival industrial technologies, collection and dissemination of practical experience, application of technology to rural development, technologies for new sources of energy, national and international policies, institutional infrastructure and training programmes.
13. The ILO (Technology and Employment Division of the Employment and Development Department) is managing twenty-five cooperative projects relating to small-scale and cottage industry, the construction of roads and irrigation systems by methods calling for a large labour force, simple forestry methods, etc.
14. Very numerous measures are also being taken in this field at national level by public and private bodies and at international level by non-governmental organizations.



15. An international programme on rural development technologies should incorporate the various contributions referred to above in a more systematic approach.

The emphasis could be on the evaluation of the various techniques developed, their improvement by systematic research and development work and the dissemination of information on these techniques.

16. Possible subjects for this programme include :

- drinking water supply techniques
- education techniques
- sanitary and medical techniques
- food preservation techniques
- techniques for the construction of low-cost housing
- farming techniques
- techniques for small-scale industry (manufacture of farm machinery, ceramics, textiles, etc.)

#### Programme on tropical diseases

17. The World Health Organisation recently launched a special programme for research and training in tropical diseases. The programme covers malaria, leprosy, schistosomiasis, filariasis, African and South American trypanosomiasis and leishmaniasis. Consideration could be given to stepping up the resources available for this programme so as to expedite its implementation or to undertaking a complementary programme on other diseases.

#### Programme to increase food production

18. This programme would of course have to be related to the proceedings of the World Food Council and the work of the Food and Agriculture Organization. It could cover the research areas identified in the World Food and Nutrition Study by the United States National Research Council.

These are as follows :

1. Nutrition-Performance Relations
2. Role of Dietary Components
3. Policies Affecting Nutrition
4. Nutrition Intervention Programs
5. Plant Breeding and Genetic Manipulation
6. Biological Nitrogen Fixation
7. Photosynthesis
8. Resistance to Environmental Stresses
9. Pest Management
10. Weather and Climate
11. Management of Tropical Soils
12. Irrigation and Water Management
13. Fertilizer Sources
14. Ruminant Livestock
15. Aquatic Food Sources
16. Farm Production Systems
17. Postharvest Losses
18. Market Expansion
19. National Food Policies and Organizations
20. Trade Policy
21. Food Reserves
22. Information Systems

The developed countries could play a particularly important part in some of these research areas where it is necessary to undertake basic research likely to yield results in the long term.

Programme concerning an inventory of natural resources

19. Several international organizations could contribute to this programme (e.g. FAO, UNESCO). Unlike the previous programmes, this should have its main emphasis on the establishment or development of suitable services (geological, hydrological, oceanographical and pedological services). The aim would be to assist those countries who so wished to make a complete inventory of their natural resources.

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20. This would not rule out the possibility, under the programme, of carrying out research on new techniques for the identification and evaluation of resources. A major effort could be devoted to the operational use of remote sensing. The use of modern data storage and analysis techniques should also be developed.

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