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ENGLISH
ORIGINAL: SPANISH

LATIN AMERICAN MEETING ON DEVELOPMENT PLANNING
AND SCIENCE AND TECHNOLOGY */

*/ Organized by El Colegio de México, the Economic Commission for Latin America and the Latin American Institute for Economic and Social Planning. UNESCO also participated.

SUGGESTED OUTLINE FOR DEALING WITH THE TOPICS
OF THE MEETING ON SCIENCE AND TECHNOLOGY
AND DEVELOPMENT PLANNING

1. Frame of reference

The exchange of ideas should deal with the present situation of development in Latin America and the Caribbean and the prospects for the next decade. This information should be used to analyse the role of planning in the present situation and in the forms of development which will be projected. Science and technology would be tackled in relation to the projected forms of development and the possibilities which planning would have in the handling of this variable.

2. Topics for discussion

With this frame of reference the following topics could be discussed:

- (a) Present situation of the incorporation of science and technology in development planning.
- (b) Links between the planning process and national science and technology policies.
 - The technological options in decision-making;
 - The planning process and the introduction of the science and technology variable.
 - The instruments to use in order to make the science and technology variable explicit.
- (c) Regional co-operation in science and technology and its links with co-operation in planning.

/PROGRAMME OF

PROGRAMME OF THE MEETING

Morning

Thursday 24 May

- 9:30 a.m. Organization of work
- 10:00 a.m. Opening meeting
- 11:30 a.m. Address by the Chairman of El Colegio de México,
Mr. Víctor L. Urquidi
- 12:15 p.m. Presentation of the topic by the representatives
of UNESCO-ILPES

Afternoon

- 3:00 p.m. Frame of reference for dealing with the topic of
the relations between planning and science and
technology
- Present situation of the incorporation of science
and technology in development planning.

Morning

Friday 25 May

- 9:30 a.m. - 12:30 p.m. Link between the planning process and the national
science and technology policies
- 2:30 p.m. - 6:30 p.m. Idem.

Morning

Saturday 26 May

- 9:30 a.m. - 12:30 p.m. Regional co-operation in science and technology
and its links with co-operation in planning.
- Conclusions.

/MAIN TOPICS

MAIN TOPICS CONSIDERED AT THE MEETING ON SCIENCE AND TECHNOLOGY
AND DEVELOPMENT PLANNING, ORGANIZED JOINTLY BY EL COLEGIO
DE MEXICO, CEPAL AND ILPES

1. The world community is considering science and technology with special interest as basic areas in the design of development strategies. The countries represented in the United Nations have taken the decision to convene a world conference to discuss the progress, obstacles to and prospects of science and technology and to draw up guidelines for use in obtaining better levels of economic and social development.

As preparatory tasks for this world meeting, the specialized agencies of the United Nations, the Regional Commissions and bodies and persons from the international scientific community have been developing various aspects, both general and specific, of scientific and technological realities and prospects. As part of this preparatory work, a series of international symposia has been organized to discuss topics relating to: co-ordination and co-operation by scientific communities; the global problems of science and technology; the applications of technologies to less developed countries and the link between planning and science and technology.

This last topic, suggested by the United Nations Advisory Committee on the Application of Science and Technology to Development (ACAST) will be the basic topic of the Symposium to be held in Mexico City during the last week of May.

In this Symposium, which will be attended by planners and science and technology experts, the basic topics considered will be: the interaction between science and technology and long-term development goals and strategies; science and technology in sectoral planning; the incorporation of science and technology in development planning techniques; the planning

/of science

of science and technology in the development process and international co-operation in planning and science and technology.

2. El Colegio de México took the initiative of organizing, together with CEPAL and ILPES, a meeting prior to the Symposium for the purpose of exchanging ideas and making progress in discussing the topics of the symposium but in the context of the Latin American situation.

3. The participants at the meeting had a fruitful exchange of ideas, on the basis of the basic orientations furnished by the Chairman of El Colegio de México and some background material prepared by ILPES/UNESCO. Some of the most important aspects considered were the following:

(a) The need was established of perfecting methodologies which will permit science and technology to be considered in planning, and which will give long-term consideration to the identification of problem areas and the process of project generation. As regards the long-term, the need was established for reinforcing the instruments for linking medium- and short-term plans with the long-term, when considerations should be given to the possibilities offered by technical progress in modifying society's historical tendencies. In these long-term orientations both the threats which loom if the necessary measures are not taken and the need to take advantage of the opportunities supplied by scientific and technical progress should be made explicit. It is also considered basic to motivate the identification of factors which may stimulate changes aimed to achieving higher levels of economic and social development more rapidly.

As regards the objective image, the difficulties which exist in defining it in specific political situations were taken into account.

/As regards

As regards the "problem areas", brought to light by the actual planning process, the treatment of the main maladjustments or shortfalls should be institutionalized so as to ensure that it will be multidisciplinary. The solutions arising out of these studies would not only come to be part of the national stock, but could well feed the horizontal co-operation machinery so as to be able to take advantage of experiences or avoid errors in different countries of the region. On the other hand, it is very possible that both the magnitude of a problem area or situation and its repetition in several countries of the region will make the multinational treatment of the solution necessary or advantageous (such areas as alternative sources of energy, health, nutrition, employment, etc., could be mentioned here.)

In order to deal with the problem areas an appropriate use must be made of systems analysis in order to facilitate decision-making and take into consideration the techniques of normative planning, technological forecasting and technology appraisal.

In the analysis of problem areas the best possible advantage should be taken of available local talent.

At the level of the phase of the formulation of programmes and projects a considerable multidisciplinary effort must be made to bring present techniques for project formulation into line, in order to disseminate the treatment by stages and the interdisciplinary work in the design phase. This implies at least the following lines of supplementary action:

- Perfecting of project methods, for example formulation by stages, in order to allow the progressive and systematized treatment of the science and technology variable throughout the formulation process. Concentration on the design phase of the projects, enriching them with

/the consideration

the consideration of technological alternatives prior to the stages of appraisal. Making government policies and the global development strategy in the appraisal of these alternative technologies.

- Ensuring multidisciplinary action in decision as regards the projects to implement.

- Perfecting of the banks and machinery for the transmission of technological data for the use of the planners.

- Increased training of specialists in projects in areas of highest priority for economic development. Intensification of the incorporation of non-traditional project-formulation techniques in these training tasks.

- Promotion of the publication and dissemination of basic material for project formulation with explicit treatment of the science and technology variable.

- Creation or reinforcing of national project systems, managed by a national project office which would be an integral part of the national planning system.

- Promotion of the joint work of project analysis, technologists and planners in the opening-up of technology packets of complex projects, especially in cases of purchases of technology.

(b) In the utilization of methodologies with an adequate time horizon, the identification of problem areas and the translation of objectives and targets into specific programmes and objects, basic consideration should be given to:

- The need to continue to improve planning as an instrument to rationalize decision-making and to ensure a better use of resources in achieving better levels of development. The improvement of state instruments for the different forms of planning and for the handling of the science and technology variables within these contexts.

/Consideration in

Consideration in incorporating the science and technology variable in planning of the degree to which the countries have progressed in the development of the planning systems and in science and technology efforts.

The need to give explicit consideration to the science and technology variable in all the stages of the planning process.

- The need to promote research to enrich economic theory so as to achieve a better interpretation of the technological phenomenon in the developing countries and open the way to ensuring their integration with the rest of the priority variables of economic and social development.

- The need to establish the appropriate machinery for co-ordination among the bodies of the Planning System and those functioning in the area of science and technology.

- The need to perfect planning instruments in order to introduce the technology variable (global models, input product, balances of resources, etc.).

- The need to consider that when the development strategy and the integration of the science and technology variable is conceived, action must be taken on a centralized basis. The formulation of plans, programmes and projects could be decentralized provided that norms and procedures are established which will permit a subsequent synthesis of appraisal and control although in a centralized form.

- The need for a greater depth of knowledge of the science and technology phenomenon since from this may emerge a better understanding of the innovative agents which would lead to the review and improvement of technological policy instruments.

- The need to use government instruments to formulate and implement technological policy even when not all the data required are available, also considering that technological behaviour does not respond exclusively to technological policy instruments but also to other economic and social policy schemes.

- The need

- The need to study in depth the negative and positive effects which world developments in the area of science and technology will have for the Latin American region.

- The need to develop the basic and applied sciences for a better understanding of problem areas and situations and for the generation and adaptation of technologies which will give impetus to the development process.

As regards the characterization of science and technology it was observed that technology provides correct solutions to clearly defined problems. It is of immediate application and can be appraised in economic terms. Science in its turn provides methods which can be applied to very varied problems. It is not immediate (when it is it generates science).

As regards science in planning, it was observed that its nature is that of long-term investment as a conditioning factor of future technology and the environment in which it will be used. The quantity, quality and orientation of the human resources which will condition the environment at a later stage can be planned. It was pointed out that technology may constitute private or state action. The training of human scientific resources is typically the responsibility of the State and can be planned.

The planning of science would thus be the training of people in order to have access to fundamental opinions for giving advice on technological alternatives, to dispose of scientists for the training of technologists to establish the conditions for being informed and for reporting on the world situation in research, and having access to scientific resources in order to contribute to research.

Various comments were made on the concept of science and on the planning of science; the need was mentioned, inter alia, for criteria in order to establish the place of science among the different possibilities of resource allocation.

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(c) It was established that the identification of the above tasks reinforces the need to give impetus to a research programme which will deal with the link between planning and science and technology, with consideration to the joint action of specialists from academic centres, government bodies and international institutions.

This research should consider theoretical aspects and the analysis of the cases of countries inside and outside the region.

(d) As regards horizontal co-operation it is considered to be a matter of the greatest urgency to establish close links between the co-operation systems of the Latin American planners and the systems dealing with co-operation in science and technology.

It is also considered to be of the greatest importance to strengthen the subregional and national science and technology centres in order to use them as focal points in regional co-operation.

/LIST OF

LIST OF PARTICIPANTS

1. Víctor L. Urquidi
Chairman
El Colegio de México, A.C.
Camino al Ajusco No. 20
México 20, D.F.
México
568.60.33
2. Manuel I. Ulloa
Subdirector de Programación de Educación,
Cultura, Ciencia y Tecnología
Secretaría de Programación y Presupuesto
Dirección General de Programación
Fray Servando Teresa de Mier 77 - 6° piso
México, D.F. Tel: 761-46-05 761-31-13
(Participant Observer)
3. Mirian Weissberg
Technician, CONACYT - México en Cooperación
Técnica Internacional
Consejo Nacional de Ciencia y Tecnología
Insurgentes Sur 1677
México, D.F. Tel: 524-24-69
Home Address: Salvador Alvarado 23/4 Z.P. 18 Tel: 515-47-88
(Speaker)
4. José Ibarra
Civil Engineer
CECHDE
Izazaga 29, Méx. 1, D.F. Tel: 761-50-93
Home Address: Petrarca 254-3 Méx. 5, D.F. Tel: 531-05-37
(Participant Observer)
5. Fernando Fajnzylber
Co-Director Programa Bienes de Capital ONUDI-NAFINSA
NAFINSA - Programa NAFINSA-ONUDI
Reforma 137/70, México, D.F. Tel: 535-48-89

/6. Danilo Jiménez

6. Danilo Jiménez Veiga
Resident Representative of UNDP in México
Masaryk 29 - piso 14, México 5, D.F. Tel: 250-12-43
Home Address: Horacio 1739, Depto. 602 México 10, D.F.
(Participant Observer)

7. Joseph Hodara
PhD. Senior Researcher
Tel Aviv University - Bar Ilan University
1. Tel Aviv Univ: Centro de Prospección Tecnológica
(Forecasting) Tel Aviv
2. Bar Ilan Univ: Centro de Estudios Latinoamericanos
Ramat Gan Tel: 41-09-84 (Tel Aviv)
Home Address: P.O. Box 3145, Jerusalem, Israel
Hotel Romano Diana.
(Speaker)

8. Oscar H. Marroquin de la Fuente
Licenciado en Economía
Secretaría de Programación y Presupuesto
Unidad de Ciencia y Tecnología
México, D.F. Tel: 761-40-44 Ext. 263
Home Address: M. López Cotilla 1132 - J - Col. del Valle ZP 12
Tel: 575-83-48
(Participant Observer)

9. Hernán Calderón
Exp. ILPES
ILPES, United Nations
Casilla 1567, Santiago, Chile Tel: 48-50-61 Anexo 345
Home Address: Carlos Silva Vildósola 162
La Reina, Santiago, Chile.
(Speaker)
Hotel Romano Diana.

10. Marcelo Robert
Especialista de Programa de la Oficina Regional de
Ciencia y Tecnología para América Latina y El Caribe (UNESCO)
UNESCO
Bulevar Artigas 1320 Tel: 41-18-07 - 41-43-17
Montevideo, Uruguay
Home Address: Carlos Butler 1937 Tel: 51-01-21
Montevideo - Uruguay
Hotel Geneve.
(Speaker)

11. Isaias Flit
Regional S & T Co-ordinator (CEPAL)
Economic Commission in Latin America (CEPAL)
Masaryk 29, México 5, D.F. Tel: 250-15-55 Ext. 139
Home Address: Herschel 148-5 México 5, D.F. Tel: 250-52-38
(Participant Observer)

12. Jorge Arias de Blois
Engineer
Instituto Centroamericano de Investigación y
Tecnología Industrial
Avda. La Reforma 4-37, Zona 10 Tel: 310-631/5
Guatemala, Guatemala
Home Address: 10 Avenida 4-36 Zona 1 Tel: 26256
Guatemala, Guatemala
Hotel Aristos
(Participant Observer)

13. Héctor Correa
Professor
University of Pittsburgh
Pittsburgh, Pa. 15260 Tel (412) 624-3602
Home Address: 120 Washington Rd. Tel: (412) 731-1358
Pittsburgh, Pa. 15221
Hotel Romano Diana

14. Antonio J. Urdinola
Independent Consultant
Office: Calle 39 # 14-62 Tel: 285-49-00 285-13-11
Bogotá, Colombia
Home Address: Carrera 11 # 92-20 Tel: 257-85-45
Bogotá, Colombia
Hotel Romano Diana
(Commentator)

- /15. Ricardo Cibotti

15. Ricardo Cibotti
Director, CEPAL Office in Buenos Aires
CEPAL
Callao 67 - 3° B. Tel: 40-04-29 40-04-31
Buenos Aires, Argentina
Home Address: Maure 2155 Depto. 4 Tel: 772-5840
Buenos Aires, Argentina
Address in México City: Félix Cuevas 309, Depto. C 201
16. Fidel Antonio Alsina
Doctor of Physics
Fundación Bariloche
8400 Bariloche, C.C. 138, R.N. Argentina
Home Address: C.C. 602, 8400 Bariloche R.N. Argentina
Hotel Romano Diana
(Participant Observer)
17. Miguel Von Hoegen
Economist
Secretaría General del Consejo Nacional
de Planificación Económica
Edificio de Finanzas, Nivel 12, Guatemala
Home Address: 11 Calle 10-68, Zona 1 Tel: 8-45-48
Hotel Romano Diana
18. Germánico Salgado P.
Chairman, Development Planning Committee, United Nations
Home Address: Carlos Montufar 319, Bellavista, Tel: 246-171
Quito, Ecuador
Hotel Romano Diana
(Commentator)
19. Manuel Martínez del Campo
El Colegio de México
Camino al Ajusco N° 20 Tel: 568-60-33 Ext: 216
México 20, D.F.
(Auditor)

/20. Jorge Israel

20. Jorge Israel Russo
Co-ordinator, Programme of Co-operation, ILPES
Latin American Institute for Economic and Social Planning
Vitacura 3030 Tel: 48-50-61 Ext. 210
Santiago, Chile
Home Address: Pérez Valenzuela 355 Depto. 25 Tel: 23-87-10
Santiago, Chile
Hotel Romano Diana
21. Niels M. Brandt
Economic Expert
CEPAL/México
Presidente Masaryk 29, México 5, D.F. Tel: 250-1555 Ext. 137
Home Address: Río Lerma 45-703 Tel: 535-90-87
México, 5 D.F.
- (Auditor)
22. Tulio de Andrea
SIDFA
UNDP-UNIDO
Masaryk 29, Piso 14
México 5, D.F.

(Participant Observer)