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UNITED NATIONS

ECONOMIC AND SOCIAL COUNCIL
OFFICIAL RECORDS

TWENTY-SEVENTH SESSION

7—24 APRIL 1959

ANNEXES

NEW YORK

Prefatory fascicle



UNITED NATIONS

ECONOMIC AND SOCIAL COUNCIL
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TWENTY-SEVENTH SESSION

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ANNEXES

NEW YORK

INTRODUCTORY NOTE

The *Official Records of the Economic and Social Council* include the records of the meetings, the annexes to those records and the supplements. The annexes are printed in fascicles, by agenda item. The present volume contains the annex fascicles of the twenty-seventh session.

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Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

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14.	Confirmation of members of functional commissions of the Council.
15.	Financial implications of actions of the Council.
16.	Consideration of the provisional agenda for the twenty-eighth session and establishment of dates for opening debate on items.

¹ No fascicle was issued on agenda item 1, for which there were no documents.



Agenda item 2: Adoption of the agenda *

CHECK LIST OF DOCUMENTS

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/3196	Provisional agenda for the twenty-seventh session of the Council : note by the Secretary-General	Mimeographed. For the agenda, see <i>Official Records of the Economic and Social Council, Twenty-seventh Session</i> , prefatory fascicle
E/L.816	Arrangement of business at the twenty-seventh session of the Council : working paper prepared by the Secretary-General	Mimeographed

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session*, 1048th meeting.



Agenda item 3 : Report of the International Monetary Fund *

RESOLUTION ADOPTED BY THE ECONOMIC AND SOCIAL COUNCIL

706 (XXVII). Report of the International Monetary Fund

The Economic and Social Council

Takes note of the report of the International Monetary Fund (E/3197 and E/3197/Add.1 and Corr.1).

1053rd plenary meeting,
9 April 1959.

CHECK LIST OF DOCUMENTS

Note. This check list includes the documents mentioned during the consideration of agenda item 3 which are not reproduced in the present fascicle.

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/3197	Note by the Secretary-General transmitting to the Council the report of the International Monetary Fund for the year ended 30 April 1958	Mimeographed. For the report of the Fund, see <i>International Monetary Fund, Annual Report of the Executive Directors for the fiscal year ended April 30, 1958</i> (Washington, D.C.)
E/3197/Add.1 and Corr.1	Note by the Secretary-General transmitting to the Council a summary of the activities of the Fund from 1 May 1958 to 31 December 1958	Mimeographed

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session*, 1052nd and 1053rd meetings.



ECONOMIC AND SOCIAL COUNCIL

OFFICIAL RECORDS

ANNEXES

TWENTY-SEVENTH SESSION

MEXICO CITY, 1959

Agenda item 4:

- (a) Report of the International Bank for Reconstruction and Development *
 (b) Report of the International Finance Corporation *

RESOLUTION ADOPTED BY THE ECONOMIC AND SOCIAL COUNCIL

707 (XXVII). Reports of the International Bank for Reconstruction and Development and the International Finance Corporation

The Economic and Social Council

Takes note of the report of the International Bank for Reconstruction and Development (E/3198 and Add.1) and of the report of the International Finance Corporation (E/3199 and Add.1).

1055th plenary meeting,
10 April 1959.

CHECK LIST OF DOCUMENTS

Note. This check list includes the documents mentioned during the consideration of agenda item 4 which are not reproduced in the present fascicle.

Document No.	Title	Observations and references
E/3198	Note by the Secretary-General transmitting to the Council the report of the International Bank for Reconstruction and Development for the fiscal year ended 30 June 1958	Mimeographed. For the report of the Bank, see International Bank for Reconstruction and Development, <i>Thirteenth Annual Report, 1957-1958</i>
E/3198/Add.1	Note by the Secretary-General transmitting to the Council a summary of developments in the Bank from 1 July 1958 to 31 January 1959	
E/3199	Note by the Secretary-General transmitting to the Council the second annual report of the International Finance Corporation, 1957-1958	Mimeographed. For the report, see International Finance Corporation, <i>Second Annual Report, 1957-1958</i> (Washington D.C.)
E/3199/Add.1	Note by the Secretary-General transmitting to the Council a summary of developments in the Corporation from 11 September 1958 to 15 March 1959	Mimeographed
E/CN.12/449 and Add.1	Possible repercussions of the European Common Market on Latin American exports: note by the secretariat of the Economic Commission for Latin America	Ditto

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session*, 1054th and 1055th meetings.



Agenda item 5: Economic development of under-developed countries:*

- (a) Industrialization ;
 (b) Land reform ;
 (c) Sources of energy.

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DOCUMENT E/3208

Land reform

Report of the Secretary-General

[Original text: English]
 [16 February 1959]

INTRODUCTION

Pursuant to Economic and Social Council resolution 649 B (XXIII) of 2 May 1957, the Secretary-General, in collaboration with the specialized agencies and recognizing the major responsibilities in this field of the Food and Agriculture Organization of the United Nations, was requested (a) to present for the consideration of the Council at its twenty-seventh session a report on progress in the work undertaken for the advancement of land reform, and (b) to prepare and present simultaneously a prospectus for a further report on land reform for consideration by the Council in 1962.

It is worth while to recall in connexion with (a) above that a report entitled *Progress in Land Reform* (E/2930)¹ on the activities of the United Nations and the specialized agencies concerned with land reform and related subjects was submitted to the Council in 1957. This report, requested by resolution 512 C (XVII), described activities up to 1955. The following account covers the period from 1955 to the beginning of 1959.

The material is presented as a single document, divided into two parts: part I comprises the report on the progress of work for the advancement of land reform; part II contains the prospectus for the report proposed for 1962. It may be noted in connexion with the latter that Council action regarding the future activities of the United Nations and the specialized agencies is indicated.

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session, 1049th to 1051st, 1053rd, 1056th to 1058th, 1060th and 1061st meetings*. See also E/AC.6/SR.256 to 261.

¹ United Nations publication, Sales No.: 1956.II.B.3.

PART I

PROGRESS REPORT ON DEVELOPMENTS IN THE FIELD OF LAND REFORM

Organization of seminars, training courses and other meetings on institutional problems to assist in the promotion of sound national policies

1. The Food and Agriculture Organization of the United Nations (FAO), as the specialized agency with major responsibility in this field, continued its interest in questions relating to land and institutional reforms as reflected in its own programme of work. Of special significance is the organization of seminars, study tours, workshops and training courses on land tenure and related agrarian institutional problems. Such activities have been undertaken either independently or in collaboration with other United Nations agencies, and also with public and private institutions.

2. Particular mention should be made of the three centres (seminars) on land problems in Latin America, in Asia and the Far East, and in the Near East. These seminars have been conducted in collaboration with other specialized agencies, economic regional commissions and private institutions. A fourth centre was organized in 1958 for the region of Asia and the Far East in co-operation with the United Nations and with the World Veterans Federation. The Centre was in Gal Oya, Ceylon, and dealt particularly with principles and policies of land settlement. This was preceded by a study tour on land settlement, which included a visit to various land settlement projects in Ceylon, India, Pakistan, the Philippines, Thailand and the Republic of Viet-Nam.

3. All these four centres, while recognizing the necessity for improving the agrarian structure, provided excellent opportunities for senior government officials and professional workers to become acquainted with the problems of other countries, and to exchange ideas and experiences on these most urgent and complex issues. Often even members of adjoining countries little realized what was happening in each other's country. Lack of communication on these important policy issues between countries was recognized to be a serious handicap. The need for permanent regional study centres was emphasized. Such centres would be devoted to training, research and analysis, and provide for the exchange of experiences and ideas.

4. As a result of the Land Problems Seminar in Latin America, the seventh session of the FAO Conference adopted resolution No. 32/1953 for the establishment of a Latin American institute on agrarian studies. This was established in Mexico City in 1954.

5. The International Labour Organisation (ILO) has organized several conferences, study groups and seminars, or has collaborated with other agencies in such ventures. For example, at the Fourth Asian Regional Conference, held at New Delhi in 1957, there was an examination of the question of the improvement of conditions of tenants, sharecroppers and similar categories of agricultural workers and also of labour and social problems in handicrafts and small-scale industry in Asia; a number of training centres and technical meetings on co-operatives have been held, partly in co-operation with the FAO, in Asia and Latin America and in Denmark for persons from Asia, Latin America and the Near East.

6. A working party on the consolidation of holdings in Europe was established with the assistance of the FAO. At its sessions at Lisbon in 1956, and at Vienna in 1957, the Working Party was concerned particularly with the relevant economic, social and technical aspects of this

subject, including the reorganization of farm units. Specific attention was given to the legal and administrative possibilities of preventing future fragmentation. A publication concerning land consolidation in Europe, based on the information submitted to the Working Party, will be published early in 1959 by the International Institute for Land Reclamation and Improvement, Wageningen, the Netherlands. In land settlement, the FAO co-operates with the Inter-Governmental Committee for European Migration within the framework of the inter-agency Working Party on Migration Research.

7. A study group of problems of individual and group settlement was organized by the FAO to exchange ideas and experiences on programmes and policies in the field of individual and group settlement. One of the most important objectives of this group is to provide for high-level discussions on the principles of settlement planning and techniques and for close study on a comparative basis of various settlement types. The group is also concerned with detailed examination of the agricultural, economic and social aspects of various types of settlements. At its two sessions at Tel Aviv, Israel, in 1956, and at Wageningen, the Netherlands, in 1958, emphasis was given to the reconciliation of the human and the physical aspects of settlement and to the integration of settlement policy in an over-all programme of economic and social development.

8. A technical meeting on agricultural finance and credit was organized by the FAO at Beirut, Lebanon, in 1954, and was followed by similar undertakings in other regions. The Centre on Agricultural Planning and Credit for Asia and the Far East was held at Lahore, Pakistan, in 1956, in co-operation with the Economic Commission for Asia and the Far East (ECAFE). In 1958, the FAO convened a development centre on agricultural credit for Latin America at Recife, Brazil, in close collaboration with the Organization of American States.

The promotion of research, including field investigation and dissemination of information regarding the experience of individual countries with national measures of land reform

9. During the last three years, the United Nations and the specialized agencies, either singly or in collaboration with other research institutes, have undertaken a number of research projects bearing upon agrarian reform and related subjects.

10. Since 1956 the following FAO publications have appeared: *Water Laws in Latin America*; *Forest Associations*; *L'Agriculture nomade*, vol. I, *Congo belge, Côte-d'Ivoire*; *Improving Agricultural Tenancy*; *The Owner Cultivator in a Progressive Agriculture*; *Principles of Tenancy Legislation*; *Co-operatives and Land Use*; *Co-operative Marketing for Agricultural Producers*; *Problems of Europe's Small Woodlands*; and a supplement to the *Bibliography on Land Tenure*.

11. The *State of Food and Agriculture, 1957*,² contained a section on "Post-war Changes in Some Institutional Factors Affecting Agriculture".

12. In co-operation with the Government of India, an FAO Indian team of experts was organized in 1957 to conduct a study on the best method of evaluating the various land reform measures adopted in India. A final report was presented in 1958 to the Indian Government embodying the findings and recommendations of the team on methods and procedures for evaluating agrarian reform.

² FAO publication, Rome, 1957 (C57/8).

13. In 1958 the FAO appointed a consultant to make a survey of the experiences in land settlement and land reform in selected countries, and to review the progress made in implementing agrarian legislation enacted since 1945. The consultant visited settlement and land reform areas in Ceylon, Indonesia, the Sudan and the United Arab Republic, and a report will be presented to a panel of settlement experts with a view to making specific recommendations. Another consultant prepared a study on agricultural credit in economically under-developed countries, scheduled for publication early in 1959.

14. The International Labour Office has prepared a number of studies on the living and working conditions of tenant farmers, sharecroppers and similar categories of agricultural workers. Reports were prepared for the fifth session of the Permanent Agricultural Committee, 1955, and the Fourth Asian Regional Conference of the ILO, as a result of which principles which should govern the protection to be given to these workers were adopted and submitted to member States for their consideration. A similar study for the Latin-American region was published under the title *The Landless Farmers in Latin America*.³ In 1958 the International Labour Conference adopted a resolution calling on the Office to pay particular attention in its research to the relationship between agrarian reform and the problem of under-employment and unemployment in agriculture.

15. To improve the conditions of hired workers in agriculture, the International Labour Conference has adopted international standards concerning vocational training in agriculture. The Conference in 1956 had a general discussion on rural-urban employment relationship and the need for countries at all levels of development to adopt policies aimed at promoting a balanced employment structure. The Permanent Agricultural Committee has also examined the questions of the protection of young workers, and placement problems and employment services in agriculture. Research has been undertaken and studies prepared on supplementary employment as a means of raising the living standards of rural populations and on the movement of labour out of agriculture. Work is nearing completion on a comprehensive study on experiences in land settlement all over the world.

16. Following up its studies on the problems of indigenous populations published in 1953, the efforts of the ILO in this field resulted in the adoption in 1957 of an international convention and recommendation concerning the protection and integration of indigenous and other tribal and semi-tribal populations in independent countries, which contained sections dealing with land problems of the indigenous population groups.

17. The ILO has made an effort to take advantage of its tripartite structure to direct the attention of workers' and employers' organizations as well as Governments to developments in the field of agrarian reform both through its regular publications and through more intimate contacts.

18. It should be noted that all seminars and technical meetings sponsored by the United Nations and the specialized agencies place emphasis on the exchange of data and experience. The regional centres, in particular, have proved effective tools in exchanging and disseminating experiences and promoting interest in research work in agrarian reform and related subjects. As a result, many participants in these centres have brought to the attention of the policy makers in their own countries the highlights of the discussions and in their later activities have carried out ideas of the centres.

19. In addition, the United Nations inter-agency major reports on land reform were published in the three official working languages and widely circulated among Member Governments, university libraries, public and private institutions and international bodies concerned with agricultural development and social progress.⁴

20. Finally, many technical lectures and the proceedings of seminars and conferences have been published in separate volumes and widely distributed. The group of publications and studies on land tenure issued by the FAO and the ILO is intended (a) to clarify the issues on land reform and related subjects by providing a concise and balanced presentation of the subject both in its general features and in the special aspects shown in particular types of land tenure; and (b) to give direct assistance to those engaged in agrarian affairs by providing guidance on methodology.

21. Besides the research activities directly concerned with the advancement of land reform, the United Nations and the specialized agencies have carried out considerable work which, *inter alia*, deals with tenure conditions and land reform problems.

22. The United Nations has prepared a study on taxation and development of agriculture in under-developed countries with special reference to Asia and the Far East (E/CN.11/DPNP.3/L.8)⁵ for the third session of the Working Party on Economic Development and Planning of ECAFE.

23. The Trusteeship Council and, in particular, its Committee on Rural Economic Development, has been concerned with land tenure and institutional improvements as applied to the Trust Territories. The Special Committee on Information from Non-Self-Governing Territories which deals with matters specifically mentioned under Article 73e of the Charter of the United Nations, has continued to pay special attention to land policies either in isolation or within the scope of wider measures of economic and social development.

24. Between its seventeenth and twenty-second sessions (February 1956 to August 1958), the Trusteeship Council has adopted several recommendations and conclusions applying to land problems in various Trust Territories. The following are examples: the Cameroons under French administration; the Cameroons under United Kingdom administration; Togoland under French administration; Togoland under United Kingdom administration; Nauru under joint Australian, United Kingdom and New Zealand administration; New Guinea under Australian administration; the Trust Territory of the Pacific Islands under United States administration; Ruanda-Urundi under Belgian administration; Somaliland under Italian administration; Tanganyika under United Kingdom administration; and Western Samoa under New Zealand administration.

25. The Committee on Rural Economic Development has thus far submitted to the Trusteeship Council a total of seven progress reports and two territorial reports which comprise studies on population, land tenure and land utilization in Ruanda-Urundi and New Guinea respectively, together with specific conclusions and recommendations for further action. Land tenure conditions in the Trust Territories of Tanganyika and Ruanda-

⁴ See the following United Nations publications: *Land Reform* (Sales No. 1951.II.B.3), *Rural Progress through Co-operatives* (Sales No. 1954.II.B.2), *Progress in Land Reform* (Sales No. 1954.II.B.3), *Progress in Land Reform: Second Report* (Sales No. 1956.II.B.3). See also *Official Records of the Economic and Social Council, Twenty-third Session, Annexes*, agenda item 5, document E/2950.

⁵ See also Conference on Agricultural Taxation and Economic Development, *Papers and Proceedings* (Cambridge, Mass., Harvard University Press, 1954).

³ Studies and Reports, New Series No. 47, Geneva, 1957.

Urundi have been recently studied by an FAO land tenure specialist.

26. In 1957 the Committee on Information from Non-Self-Governing Territories considered a paper prepared by the Secretariat entitled "Social Aspects of Economic Development; Peasant Societies in Transition" (A/AC.35/L.248). This paper analyses the significance of changes occurring in the native economies of these Territories as a result of rapid technological advances, and the diversification of production, their effect on the scale and composition of employment and the rate of economic and social development that is taking place in a number of Territories. In 1958 the Committee examined a study on land tenure prepared by the Secretary-General,⁶ reviewing the various land regulations in force in the Non-Self-Governing Territories. The paper stresses that the importance of establishing systems of land tenure on a sound basis was recognized at an early stage in the modern economic development of the Non-Self-Governing Territories. In a previous study the Committee had been mainly concerned with the problem of land distribution and the evolution of land holdings in the setting of present economic conditions and social institutions.⁷

27. Other organs of the United Nations have likewise engaged in investigational work in this field. The regional economic commissions, in their regular annual surveys or in the preparation of country studies, special reports and working papers carried out in connexion with their working programmes of economic development have usually covered several aspects of land problems and agricultural adjustment and development as applied to individual countries or regions.

28. The Working Party on Economic Development and Planning of ECAFE discussed the role of agrarian reform in agricultural development programmes at a meeting held in the autumn of 1957 and drew the attention of the Member Governments of the region to the desirability of developing the necessary institutional measures for ensuring the active participation of farmers in accelerating the rate of agricultural development as rapidly as possible and of integrating them into plans for agricultural development.⁸

29. In addition to the occasional papers prepared on significant developments in agrarian reform in the countries of the area, ECAFE, in collaboration with the FAO, prepared a study entitled "Agricultural Economics Research in Asia and the Far East".⁹ Research work is being currently undertaken in several institutes and universities in six countries of the region, namely, China (Taiwan), India, Japan, Pakistan, the Philippines and Thailand, on the subjects of land tenure, land reform, fragmentation and consolidation of holdings, agricultural financing and credit, marketing of agricultural produce and rural life and organization, including co-operatives. The secretariat of ECAFE also prepared a paper entitled "Studies on Population Growth and Economic Development: Demographic Aspects and Some Related Problems in the ECAFE Region",¹⁰ in which particular attention is drawn to the current problems of land settlement and population redistribution.

⁶ Official Records of the General Assembly, Thirteenth Session, Supplement No. 15, part two.

⁷ Ibid., Sixth Session, Supplement No. 14, part three.

⁸ Economic Bulletin for Asia and the Far East, November 1957, p. 16.

⁹ See E/CN.11/L.59 (part II) for a detailed description of the extent to which promotion of research on land economics has been developed in the area.

¹⁰ See Economic Bulletin for Asia and the Far East, May 1958.

30. The Economic Commission for Latin America (ECLA) has indirectly dealt with land and related agrarian problems in some of the more general country studies carried out by it. In a number of these, questions of land tenure, size of farms and the structure of employment and wages for farm labour have been studied in conjunction with other social and economic problems. In such studies particular attention has been directed to problems and issues which touch upon large concentrations of land, commonly known in the area as latifundia (very large estates) and on fragmentation of farm properties, the so-called minifundia (very small farms). In many instances the prevalence of minifundia is responsible for farms of uneconomic size. In this type of investigation, the Commission has been in a position to draw the attention of those concerned to the inequalities of the various systems of land tenure in some of the countries of the region. Particularly noted are those places where insecurity of tenancy may be further aggravated by unusually high land rents, whether paid in cash or in kind, which discourage investments and retard improvement in the agricultural sector. This problem is often associated with the low level of wages in agriculture and is fully reflected in the poor productivity of the agricultural labour of some countries. Reference is made in this respect to the study prepared by the secretariat of ECLA entitled *Coffee in Latin America, I. Colombia and El Salvador* (E/CN.12/490)¹¹ in which the productivity problems are analysed in relation to the size of farms and the type of tenure.

31. In addition, ECLA has dealt with problems related to land tenure and institutional improvements in the agrarian sectors in various papers, such as *The Economic Development of Latin America and its Principal Problems* (E/CN.12/89/Rev.1),¹² *Analyses and Projections of Economic Development, III. The Economic Development of Colombia* (E/CN.12/365/Rev.1),¹³ "Posibilidades de la expansión del trigo en Brasil" (E/CN.12/488), *Análisis y proyecciones del desarrollo económico, V. El desarrollo económico de la Argentina* (E/CN.12/429),¹⁴ and *Análisis y proyecciones del desarrollo económico, IV. El desarrollo económico de Bolivia* (E/CN.12/430 and Add.1/Rev.1).¹⁵

32. The United Nations Relief and Works Agency for Palestine Refugees in the Near East, although not directly concerned with agrarian problems, carried out an extensive survey on land tenure in the Jordan Valley in co-operation with the Government of Jordan. The results of this survey are set out in a study entitled "Comparison of Recent Plans to Utilize Waters of the Jordan River and its Tributaries"¹⁶ which constitutes a valuable contribution to schemes of irrigation in that area. The study includes a description of the unified development project prepared earlier under the auspices of the United Nations by the direction of the United States Tennessee Valley Authority.

33. The United Nations Educational, Scientific and Cultural Organization (UNESCO) has considered a detailed proposal concerning technical assistance in the field of rural sociology based on the recommendations of a technical assistance mission in Jamaica in 1955. Because of the shortage of funds the recommendation has not yet been followed up. The programme of

¹¹ United Nations publication, Sales No.: 58.II.G.4.

¹² United Nations publication, Sales No.: 1950.II.G.2.

¹³ United Nations publication, Sales No.: 1957.II.G.3.

¹⁴ United Nations publication, Sales No.: 59.II.G.3 (Spanish only).

¹⁵ United Nations publication, Sales No.: 58.II.G.2 (Spanish only).

¹⁶ United Nations Relief and Works Agency for Palestine Refugees. *Bulletin of Economic Development, No. 14* (Beirut, Lebanon, July 1956), p. 81.

UNESCO for 1959-1960 places great emphasis on a project dealing with the adaption problems of traditional societies to technical change.

Technical assistance projects of the United Nations and the specialized agencies

34. Relatively few requests have been received from Governments in the specific field of land reform, but a number of technical assistance projects in closely related subjects have been carried out. The latter include a few general survey projects, such as studies to ascertain the extent to which existing agrarian conditions hamper economic development.

35. Fields which in a broader sense were related to land reform and in which advisers under the Expanded Programme of Technical Assistance were active include administrative and legal advice, cadastral survey, land evaluation and agricultural taxation reforms, provision of opportunities for farm ownership, conditions of tenancy, migration and resettlement, promotion of rural industries, organization of credit facilities, promotion of co-operatives, control of land utilization, conservation of resources, community development, land research centres, training facilities and over-all survey of the problem of rural populations.

36. Noteworthy are the following projects because they had a direct bearing on national land tenure improvement policies :

37. The Bolivian Government on three different occasions utilized FAO assistance in the implementation of its general land reform programme. The last two missions were short-term assignments directed particularly toward the evaluation of the effectiveness of the land reform programme. The experts were called upon to make recommendations on the reorganization, streamlining and utilization of appropriate services in the land distribution programme.

38. The Government of Colombia received FAO assistance in land tenure policy and colonization. Two experts studied the land use and tenure situation and made recommendations for a comprehensive land tenure improvement policy as well as for specific land settlement projects. Some of the recommendations arising out of these missions have recently been implemented.

39. During 1955-1956 a colonization expert advised the Costa Rican Government on land reform policies. This included the formulation of a draft law on land tenure, settlement policies and programmes. Provisions for the draft law centred around the formation of a new land settlement institute. The draft law has not yet been implemented by the Government.

40. In Ecuador an FAO expert, in close co-operation with an ILO adviser, has been instrumental in the organization of a new land settlement institute and is currently assisting in its operations. This work includes comprehensive planning for the institute's pilot projects.

41. Early in 1957 a land use and tenure expert was assigned to Mexico to assist the Mexican Agrarian Research Centre in carrying out evaluation studies in various regions of the country on the effectiveness of the Mexican land reform.

42. Mention should be made of the only technical assistance project involving co-operative farming. In Pakistan an expert worked out a system for the reorganization of some villages based on joint use of land, but maintaining individual ownership.

43. Since 1957 an agrarian reform adviser has been assisting the Government of Paraguay on a comprehen-

sive programme of land reform and settlement. The expert is working on the reorganization of the national land reform institute and is helping the Government to formulate a comprehensive land policy.

44. The recently concluded joint mission to Peru of the FAO and the International Bank for Reconstruction and Development included an FAO land policy adviser who examined the land tenure situation and drafted the corresponding part of the mission's final report.

45. Additional assistance in the field of land tenure improvement and land settlement has been given by the FAO to the Governments of Brazil, Chile, Guatemala, Libya and Uruguay. The most recent project, which will be initiated in 1959, involves assistance to the Government of Iraq in implementing its recently promulgated land reform law.

46. The FAO has provided a number of experts to assist Governments in the solution of problems related to land reform, as, for example, co-operatives, supervised credit, land and water utilization, etc. Such technical assistance projects were operating in Afghanistan, Bolivia, Brazil, the Caribbean region, Indonesia, Iran, Libya and Pakistan.

47. In addition to the experts mentioned above, the FAO has provided more than a hundred fellowships in fields related to agrarian reform.

48. The ILO has given technical assistance covering various aspects of co-operation to a large number of countries—e.g., Burma, Ceylon, Egypt, Iran, Malaya, the Philippines and Thailand. With regard to handicrafts and rural industries, expert assistance has been given to several countries in Asia, Latin America, the Near East and Africa.

49. In making over-all surveys of social problems in agriculture in Burma, ILO experts have made certain recommendations concerning the implementation of the land nationalization programme, and in a similar project in Pakistan reference was made to desirable adjustments in the land reform in force at that time. An ILO expert was assigned to El Salvador to advise on agricultural labour legislation and to advise the Government on legislation in favour of tenants and sharecroppers.

50. As part of the Andean Indian Programme operating in three South American countries under the general leadership of the ILO, and with the co-operation of other United Nations agencies, attention is directed to various matters related to agrarian reform. In Bolivia, for example, some of the action bases are located on former estates affected by agrarian reform and the cultivators are being assisted in improving their agricultural methods and in operating land on co-operative lines. One of the projects, among other things, deals with some of the problems involved in the movement of Indians from the Altiplano to the lowlands for settlement.

51. A number of projects carried out by the United Nations have a bearing on general land reform problems. Several experts have been assigned by the United Nations to advise Governments on land taxation and related problems, either specifically or as part of the over-all taxation system. Countries receiving such assistance include Chile (codification of tax legislation, including tax on income from land); Ghana (tax evaluation, rating of land and real estate evaluation); Indonesia (tax reform, including taxation of land); Iraq (tax reform, municipal administration and taxation, including local taxes on land in urban and rural areas); Jamaica (land tax evaluation); Nepal (public finance, including land taxation); the Sudan (taxation, including taxation in agriculture); the United Arab Republic, Syrian Region

(income tax, including taxation of income from agriculture) and the Non-Self-Governing Territory of the Seychelles (land tax reform, land tenure and land registration).

52. Countries currently receiving or which have recently received assistance in cadastral surveys and related questions, including fellowships for training personnel in these activities, include Afghanistan, Bolivia, Burma, Ecuador, El Salvador, Iceland, India, Indonesia, Iran, Lebanon, Pakistan, the Philippines and the Seychelles.

53. Experts in community development have been assigned by the United Nations to various projects where land reform and land settlement, the use of land, the development of resources and the improvement of the agrarian structure are matters of great importance. The recipient countries are Afghanistan, Cambodia, Ecuador, Haiti, Iraq, Morocco, Tunisia and the United Arab Republic, Syrian Region.

PART II

PROSPECTUS OF THE 1962 REPORT ON DEVELOPMENTS IN THE FIELD OF LAND REFORM

54. Paragraph 4 of Economic and Social Council resolution 649 B (XXIII) requests the Secretary-General to keep under review developments in the field of land reform and to prepare, in collaboration with the appropriate specialized agencies, a further report on land reform for submission to the Council in 1962. A prospectus of such a report is therefore presented for consideration by the Council. Paragraph 5 of the resolution requires that it should describe the specific land reform problems to which it was planned to devote attention and indicate the information which would be available for such a report and the kinds and sources of additional information which would be required.

55. The first study on land reform prepared for consideration by the Council¹⁷ was primarily concerned with the obstacles to the implementation of measures designed to ensure a higher level of production and better balanced social and economic development. The two reports that followed¹⁸ resulted from an analysis of the replies submitted by Governments to a United Nations questionnaire on land reform. The subject is broad and its ramifications difficult to delimit. It is felt that for the future it would be preferable to submit for the Council's consideration a general outline to indicate the specific manner in which the material for the outline for the 1962 report will be developed. The general outline within which it is proposed to operate follows:

(a) The planning of agrarian reform measures and their integration in the general economic planning. Specific attention will be given to the relative weight of efficiency considerations as against welfare or equity considerations in planning land reforms.

(b) The implementation of agrarian reform programmes, with specific attention to:

- (i) The nature of legislative or executive provisions made;
- (ii) The efficiency of the administrative machinery;
- (iii) Obstacles to be overcome during the process of implementation;

(iv) Adequacy of supporting measures, such as community development, extension services, and training of agricultural manpower.

(c) The impact of agrarian reform measures (short-term and long-term effects) on agricultural and economic development, including employment, and on the living standards of the farming population; incentives, productivity, capital improvements on land, etc.

(d) The financial aspects of agrarian reform policies, including:

- (i) The financing of agrarian reform measures (more specifically for land acquisition and grants and land development);
- (ii) The needs of the cultivator for production capital;
- (iii) The impact of agrarian reform measures on public finance.

56. While this outline establishes guide-posts for future activity in the field of land reform, the immediate objective would be to shift the emphasis from reporting on the broad general aspects of land reform to specific items of substances which are basic to over-all problems.

57. Besides the work which has been carried out by the FAO and other organizations in preparation for the report to be submitted to the Council in 1962, the following are examples of problems to which attention could be devoted:

(a) The effects of land reform on productivity in agriculture and on farm output in both the subsistence and the commercial sectors.

(b) The effect of land reform on employment in rural communities, with particular reference to:

- (i) Productivity of labour;
- (ii) Level of employment and extent of underemployment.

(c) Financing agrarian reform.

- (i) Tax policy;
- (ii) The needs of the new cultivator for production capital;

(iii) Financial obligations to and of former landholders.

(d) The relationship of land reform to community development.

(i) The role of community development in the solution of specific problems arising from land reform schemes;

(ii) The impact of national community development programmes on the agrarian structure;

(iii) Co-ordination of land reform measures and community development in national programmes of economic and social development.

58. The Secretary-General in 1962 would report to the Council only on those aspects of land reform which are covered in paragraph 57, although the United Nations and the specialized agencies would continue to be concerned with the broad problems included in the general outline.

Sources of information

59. The Secretary-General directs the attention of the Council to the fact that previously in securing information on land reform there has been a tendency to rely heavily upon questionnaires submitted to all Governments. It is anticipated that future information will be provided primarily by the activities of the technical staff of the agencies working in this and in related fields. As an indication of the general sources of information the following are listed:

(a) Reports of technical missions working on various aspects of land reform, including the information provided by special consultants engaged in such projects as

¹⁷ United Nations publication, Sales No.: 1951.II.B.3.

¹⁸ United Nations publications, Sales Nos.: 1954.II.B.3 and 1956.II.B.3.

appraisals of the impact of existing tenure conditions, administrative practices on land and water use, and surveys of the experiences gained in land settlement and land reform.

(b) Information and reports prepared by various international, regional and national centres and study groups dealing with land problems and related fields.

(c) Reports and information provided by the team of experts on Latin-American land reform. This team will explore with interested Governments the types of appropriate action in this and related fields in this particular region.

(d) Reports and monographs prepared by qualified research institutes engaged in economic and sociological studies bearing upon the various facets of the agrarian structure. In addition, the periodical and occasional reports and papers or specific country studies on general

economic and social development, prepared by or with the collaboration of the United Nations regional economic commissions, will prove a valuable source of reference and documentation for further land reform studies.

(e) Information furnished by Governments where specific gaps need to be filled.

60. The United Nations organizations operating in the field of agrarian reform have established several professional and liaison contacts with university and research institutions which are ready to co-operate in a survey and appraisal of land reform and settlement projects and in studies of particular problems in land reform. Appropriate steps will be taken to strengthen and encourage such collaboration. It may be necessary to supplement these sources by further use of the questionnaire method in selected studies, but it is hoped to reduce this procedure to a minimum.

DOCUMENTS E/3212 and Add.1

Work done and recommendations concerning energy development

Document E/3212 *

Report of the Secretary-General

[Original text: English]
[27 February 1959]

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INTRODUCTION

1. In its resolution 653 I (XXIV) the Economic and Social Council requested the Secretary-General "to review, in consultation with the appropriate specialized agencies, the work already being done in the field of energy resources, including technical assistance activity, and to make to the Council at its twenty-seventh session such recommendations regarding future work, as he considers appropriate".

2. The present report is submitted in response to this request. The review of work done is based on a survey of the studies, reports and work programmes of the various organs and units of the United Nations active in the energy field, and takes into account the related activities of the various specialized agencies. References to activities which resulted in specific studies or reports have, as far as possible, been carefully documented. However, it should be noted that the documents so cited are not meant to constitute an exhaustive bibliography of publications in the energy field.

3. Although the resolution makes no reference to the work of non-United Nations organizations, it was thought useful to make a brief survey of these as well, in terms of their purposes, activities and publications.

4. The report is divided into six chapters. The first four review the work done on general energy problems (resources, requirements, trade, prices), conventional fuels, non-conventional energy and electric power, respectively. The fifth analyses experience gained and problems encountered in technical assistance. The sixth presents the summary and conclusions, including recommendations concerning future work.

5. In addition, four annexes are attached which are intended to provide an organizational background for the systematic review of activities. The first three describe the organizational arrangements, methods of work and spheres of interest of the relevant United Nations services, specialized agencies and other international organizations. The fourth reproduces the draft outline for a study, now being considered, on fuel and power resources and demands in the region of the Economic Commission for Asia and the Far East (ECAFE).

Chapter I

GENERAL ENERGY PROBLEMS: RESOURCES, REQUIREMENTS AND TRADE

6. Energy supply and utilization are basic to modern production and transport; indeed, they largely affect the very level of living. Hence, inanimate energy must be provided before other investments can become effective. The development of energy production, however, is itself a lengthy and capital-intensive process — a process, in other words, for which careful programming is imperative. A reasonably clear picture must be obtained, for example, of energy requirements and the pattern of demand for energy as a consumer product and as a factor of production. The changes to be expected as a result of development must also be taken into account. Equally necessary are the survey and appraisal of potential energy resources, for only on the basis of these can long-term energy prospects be evaluated and guidance had for specific investment decisions. Still other factors to be considered are the relative location of resources and demand, and the possibilities for trade. Lastly, the question of prices has to be examined, since prices regulate the supply-demand relationship and influence the selection and combined use of energy sources.

Resources appraisal

7. Among comprehensive compilations covering so-called commercial energy resources (coal, lignite, petroleum, natural gas and hydro-power resources) may be mentioned those presented at the first International Conference on the Peaceful Uses of Atomic Energy held at Geneva in 1955 (1)¹ and those in the recent report on economic applications of atomic energy (2). Both of these are world-wide in scope. In addition, studies at the regional level and for individual countries have been undertaken by various bodies and experts (3).

8. The work, at various levels, on energy resource appraisal, statistics and related problems, leaves much to be desired. The paucity of over-all energy resource surveys partly reflects the relative absence of a comprehensive approach to energy development, but it derives also from the fact that the extent of energy resources — both commercial and other — is a matter of considerable uncertainty. This uncertainty stems in part from the fact that prospecting and exploration, for example, have not proceeded at the same rate in all regions and that several areas are veritable blanks on the energy resource map, deficiencies which are, however, being gradually attacked by various surveys made by technical assistance experts and others (these will be discussed, in relation to individual sources of energy, later). The uncertainty is also due to a number of other factors, such as differences in methods, concepts and definitions as to what is to be included under "resources". For, to be of practical value to economic development, resource surveys must encompass not only the measurement of total physical availabilities but also the determination of technically and economically exploitable resources. Other problems in over-all energy resources statistics relate to comparisons of different energy resources that are valid only in terms of calorific value, and to the combination of exhaustible resources, such as fossil fuels, with in-exhaustible resources, such as water power and perhaps solar and other non-conventional energy.

9. Geological mapping and mineral fuel prospecting are a continuous process in many countries, although in most under-developed regions they have only just begun or are beginning to be used. Some of the needs in this sphere are being met by such endeavours as that of the ECAFE Working Party of Senior Geologists (4), by study tours (as by Asian geologists and mining engineers) (5) and by the provision of an increasing number of technical assistance experts and fellowships.

10. As a result of research and experimentation, techniques of fuel resource surveying and development are continuously undergoing change. A number of reports have been prepared with a view to promoting international exchange of information on these developments. While such reports cannot take the place of engineers' handbooks and manuals, they often serve to emphasize the adaptability and applicability of techniques to conditions in under-developed countries. One of the reports — by ECAFE — deals with aerial surveys as an aid to mineral exploration (6).

11. Closely related are the problems concerning methods of evaluation of fuel resources. These problems are frequently encountered in technical assistance projects and indicate that there is a need to introduce more economic analysis into the work of geologists and engineers, so that mapping and prospecting might be directed towards the more economically promising areas and discoveries might be realistically evaluated in terms of economic development possibilities. Little has been

¹ Numbers within parentheses refer to the bibliographical notes at the end of this document.

done in the way of systematic studies concerning methods of fuel resource appraisal and definitions. However, this subject may be included in forthcoming work on techniques of resource surveys under Economic and Social Council resolution 614 C (XXII).

12. Another series of problems important to general fuel resources development arises from questions relating to mining legislation, investment rules and taxation. A survey of mining legislation, with special reference to the ECAFE region (7) has been published. As the next step, a working party of experts on mining legislation will consider the effectiveness of various forms of legislation in promoting the further development and conservation of mineral resources. In addition, advice on mining codes and other legislation is provided by technical assistance experts and related health and safety legislation is *inter alia* studied by the International Labour Organisation (ILO). Foreign investments are particularly significant in fuel development, notably petroleum, and are often governed by special rules laid down in mining legislation, foreign investment laws or concession contracts; this general subject is dealt with in various studies on international capital movements, studies which also take into account relevant taxation and foreign exchange rules.

13. Problems specifically related to the assessment of hydro-power potentials have long been studied by the Group of Experts of the Economic Commission for Europe (ECE) for the study of hydroelectric resources and more recently by an ECAFE Working Party on Assessment of Hydroelectric Potentials (8). These regional efforts have been designed, *inter alia*, to evolve common, comparable methods, to promote the exchange of experience and to review the hydro-power resource situation. Both groups have considered methods of assessing gross or theoretical, technical and economic potentials (9). The ECE Group has prepared a considerable number of papers on related problems including an actual map showing gross potential estimated on a uniform basis (10), a paper on regional characteristics of Europe's hydroelectric resources (11) and papers on within-the-year irregularity of flow (12). In the ECAFE region and in other under-developed areas the problem is that of finding trained personnel to do the measuring (13).

Requirements

14. Studies of requirements are necessary to obtain an indication of the goals to be met and to attempt to foresee problems likely to arise. Energy requirements are increasing rapidly because of the growth of population and especially because of the higher *per caput* use of energy entailed in industrialization, mechanization and a rising level of living. Except for a few countries that are actual or potential energy exporters, most countries cannot meet or must even scale down demand at least in certain sectors of the energy field.

15. It is difficult to measure or estimate over-all energy requirements, even for a limited geographical area and particularly with regard to future demand. Statistical compilations of various consumption figures, adding together entities converted into a technical comparable unit such as coal or kilowatt-hour equivalent, may embrace both fuel and electricity consumption and in some cases non-energy uses of fuels. If carried back over a number of years, such over-all energy consumption figures may give a clue to future requirements. However, extrapolation of past trends is only a crude method of forecasting, even for individual energy sectors. This is so particularly in under-developed countries.

16. Forecasting over-all energy requirements is beset by a number of difficulties. Most energy is used up in

production, and demand has thus to be "derived" from estimates and assumptions concerning other activities. Moreover, energy sources are interdependent and the technical comparability represented by energy equivalents has only limited meaning. Additional suppositions and assumptions have to be made about future prices and technological changes, as well as about location, if a realistic analysis is to be achieved, the more so where estimates of future demand are broken down by type of energy and its final form and by probable sources. Conversely, demand studies for individual energy sources must take into account the over-all energy situation.

17. Aside from statistical reports on consumption, the number of comprehensive studies covering both fuel and electricity requirements or total demand for energy resources is very limited. Statistics on past world energy consumption have been published regularly (14), and the world's requirements for energy constituted a separate subject of discussion at the 1955 International Conference on the Peaceful Uses of Atomic Energy. On that occasion, comprehensive figures were presented for several individual countries, as well as world totals, and some more or less crude extrapolations into the future were made. Surveys of energy consumption have been made from time to time at the regional level and have sometimes been coupled with attempts of forecasting or with questions of development programming (3, 15)—while over-all energy requirements also have been dealt with in certain country studies. In some of these studies figures are broken down not only by type of energy but also by economic sector.

18. Long-term trends in demand or consumption and supply or production have received attention in a number of instances, for example, at the 1955 International Conference on the Peaceful Uses of Atomic Energy (1) and in statistical publications on world energy production and consumption (14). At the regional level, a certain amount of comprehensive work has been done on energy supply in relation to demand, as in the above-mentioned study of the Economic Commission for Latin America (ECLA) on *Energy in Latin America* and the more recent paper concerning the energy situation in Europe (3). In addition, several preliminary reports on the fuel situation and economy of the ECAFE region (16) have been prepared and the present ECAFE work programme includes an integrated study of fuel and power resources and demands of the various countries. Studies at the national level, some of them undertaken with the help of technical assistance experts or in connexion with country reports of the International Bank for Reconstruction and Development (Bank) are too numerous to mention, as are reports of broader scope, notably for Europe by the Organization for European Economic Co-operation (OEEC) and others. Lastly, attention to long-term trends in energy supply and demand and markets is sometimes given in the context of various general economic surveys.

19. Fuel and power are frequently treated separately in the work under consideration. For this reason, it is useful to distinguish between work on fuel requirements and that on electricity requirements. This division reflects the lack of a comprehensive approach to energy problems.

20. Within the picture of over-all energy requirements, or with regard to special aspects, fuel requirements may be approached from the point of view either of particular fuels or of different fuel-using sectors. Activities range from statistical exporting of actual consumption to forecasting of fuel demand, relating in the short run to marketing problems and in the long run to development planning.

The aspects dealt with in this field include the possibility of increased utilization of certain commercial fuels and certain other sources of heat—such as lignite, power alcohol and certain new primary energy sources—as well as numerous technical problems.

21. Statistics on fuel consumption, which may be considered as reflecting past “requirements”, are published by the United Nations in numerous regular and special reports of varying geographical scope and subject coverage, including highly specialized reports on particular fuels in certain regions. Similar statistics are also published by other organizations, especially in Europe.

22. A number of the studies put out concern demand for individual fuels, particularly coal and gas at the regional level. Among those on coal are the “Coal Market Review” (semi-annual), and the examination of the solid fuel position (quarterly) (17). Originally these were designed to aid in the allocation of coal in short supply but they now serve to promote orderly market development. Among those on gas are a number of analytic studies: on gas consumption by industry and in selected European countries (18); on variation of gas requirements according to season and temperature (19); and on future gas demand (20). A forthcoming study will deal, *inter alia*, with methods of gas requirement forecasting. In addition, requirements and market possibilities for a particular fuel are sometimes examined in connexion with technical assistance projects.

23. Relatively little has been done in the study of fuel requirements from the point of view of fuel users. This approach is particularly important in forecasting since fuel requirements often grow at different rates in such sectors as mining, manufacturing industries, transportation, domestic heating and the electric power industry. Although certain uses are tied to particular fuels, studies of this type may also deal with probable sources of energy in the light of economic factors. The approach is also conducive to the study of efficiency of utilization, fuel requirements per unit of output and the fuel implications of development. A few instances of studies along these lines in a wider context may be noted in addition to a special report by the ECE on trends in household and domestic fuel consumption (21). For example, a study of the iron and steel industry in Latin America included consideration of coal requirements (22), and the use of lignite in relation to thermal power and railways was included in a study of lignite resources of Asia and the Far East (23).

24. Electric power consumption and requirements represent a relatively distinct subject within the energy field, yet one closely related to others inasmuch as electric power is derived from various primary energy resources.

25. Statistics on electric power production and consumption appear regularly in such publications as the ECE's quarterly and annual bulletins of electric energy statistics for Europe and ECAFE's electric power bulletin. In addition, a number of general statistical publications include data on electric power. Consumption trends are analysed in various economic surveys and are given consideration in such reports as the ECE's regular series on the electric power situation in Europe (24). The available statistics sometimes include a break-down according to broad economic sectors, but in general further refinements and details are needed to make them useful for studies on requirements and forecasting.

26. Techniques of power demand forecasting have received a certain amount of attention (25) but the experience with technical assistance projects indicates the need for further work, both in the study of these

techniques and in their application through actual studies and compilations. Only a few compilations have so far been made. One instance is the table on estimated annual increases in installed capacity in a number of countries, contained in the study *Economic Applications of Atomic Energy* (2). This was based on data presented at the 1955 International Conference on the Peaceful Uses of Atomic Energy as well as on data made available at meetings of the World Power Conference. Other examples are the projections made in the study *Energy in Latin America* and those made in connexion with a meeting of Central American electric power officials held in 1957 in Costa Rica. Crude extrapolation from national totals or from data on broad economic sectors have limited value, however, because the composition of power consumption and techniques change rapidly and because additional problems are posed by location, particularly in areas lacking interconnexion, and by timing of demand, since production has to be geared instantaneously to hourly and seasonal variations.

27. To obtain more refined forecasting, therefore, information must be at hand, *inter alia*, on present and prospective electric power requirements not only by broad economic sectors such as industry, mining, agriculture, transportation and households but also by particular branches of industry and uses or products. The above-mentioned study, *Economic Applications of Atomic Energy*, contains tables showing kilowatt-hour requirements for a variety of products in industry, in mining, in mineral refining and in agriculture. In addition, ECAFE has made a study of electricity in the chemical industry (26) and in metallurgy (27). But these efforts represent only a beginning towards the aim of providing tools for power forecasting and planning in under-developed countries.

Trade

28. Trade is an important factor in the energy supply-demand relationship. Whether the trade is between different regions of the same country or between different countries, it serves to overcome an uneven distribution of energy resources and imbalances between resources and requirements in any one locality. While most of the energy needs are met from domestic sources and many countries are striving for self-sufficiency for various reasons, including security and foreign exchange considerations, energy imports play a vital role in most countries. Few countries are net exporters of energy, and even most of these import some forms of energy while exporting others.

29. Some of the aspects of international trade which deserve special study are the share of imports in energy consumption, the share of production entering international trade, and the share of different types of energy in international trade. Revolutionary changes have taken place in the importance, pattern and composition of trade. For example, with the decline of coal trade and the ascent of petroleum, the position of certain industrial countries has changed from that of net fuel exporter to that of net importer. Other changes are the advent in new areas of production of crude petroleum, the entry into trade of increasing proportions of crude petroleum output and the shift of refineries from production to consumption centres.

30. Statistical and other information on international trade in fuels, in general and in particular, is provided in the context of economic surveys of various kinds and in a number of the publications which were mentioned above in connexion with the question of requirements. Much of the statistical data is given in physical terms only. Additional information is published by the United Nations Statistical Office and at other levels on values

and prices of coal, coke, crude oil and petroleum products. This kind of data is also found in general reports on commodity trade prepared by the Commission on International Commodity Trade and other organs concerned with international trade as such.

31. Fuel imports often account for an important share of foreign exchange expenditures and have been studied, for example by ECLA, from the point of view of the balance of payments. The development of domestic fuel and other energy supplies to replace fuel imports thus has a wide appeal, *inter alia*, as a way of conserving foreign exchange. The foreign exchange problem, however, is not simple: domestic production also requires foreign exchange for energy-producing equipment, for immediate installation and for future operation. It also demands substantial capital investment, skill and time to develop. In fact, there appears to be a need for further systematic study of (a) comparative costs of fuel imports and import-replacing domestic production; (b) foreign exchange costs for fuel imports and for energy-producing equipment; (c) international trade in energy equipment; and, possibly, (d) commercial policy for fuel and equipment imports. Such studies would yield information needed particularly by under-developed countries in determining their future policies.

32. Energy exports consist chiefly of petroleum. The distribution of resources and demand factors have largely determined the building up of this export industry, and the enormous capital requirements have been met mostly from foreign investments. Studies (by the Bureau of Economic Affairs and by others) on the flow of private capital and conditions of foreign investment, indicate that petroleum development accounts for an important share of private foreign investments in under-developed countries. The major role of private capital in this predominantly export industry which accounts for important foreign exchange earnings is not, however, paralleled by an equally significant role in import-replacing development or in the local fuel and power production industries. In the past, investments of private foreign capital in the electric power industry were significant but this is no longer the case (except that some major direct investments have remained). Today most Governments of under-developed countries are taking up the responsibility for the development of electric power. In so doing, they often have the help of Bank loans or other public capital as well as long-term export credits from equipment producers.

33. Development of international transfers of electric power presupposes the existence or construction of grid systems between countries. Transfers are therefore limited to countries sufficiently developed to have transmission lines, or must take place in border areas; the alternative is to export power in the form of power-intensive products, such as aluminium, a possibility gaining increasing attention.

34. Aside from power exchanges in North America, preoccupation with development of international transfers has been concentrated in Europe, where the ECE has dealt mainly with east-west exchanges and the OEEC and other organizations with exchanges in western Europe. The ECE Electric Power Committee, for example, has explored possibilities for electric power exchanges between countries in central Europe (28) and between central and south-eastern Europe (29) and has been instrumental in developing power exports from Yugoslavia (30). The latter project, known as "Yougelexport", was the subject of study by technical assistance experts and others under a Co-ordination Committee and its subsidiary organs. In addition, the ECE Committee has dealt in more general terms with European power

transfers (31) and related problems, such as legal and administrative obstacles (32).

35. Gas exports present problems similar to those encountered in connexion with electricity transfers. Hence, the ECE *Ad Hoc* Working Party on Gas Problems is studying, *inter alia*, problems involved in legal protection for international gas pipelines.

Prices

36. Prices and the related questions of competition and substitution are central to the energy supply-demand relationship. However, relatively little attention has been given to these questions as such.

37. Price relationships, and problems of price policy, are exceedingly complicated in the energy field for several reasons. In part, this is due to the interdependence between different energy sources and between different uses. It is also due to the public utility character of certain energy sectors. Rather little is known, for example, about how relative prices affect the consumption pattern and efficiency in use, or about the elasticity of supply in relation to price changes. Nevertheless, price assumptions are made in connexion, for instance, with demand forecasting and evaluation of resources; similarly, the market response is taken into account in the formulation of price policy, fuel import policy and other governmental activity.

38. Energy price statistics for use in international comparisons, and in comparative analytical price studies which could serve as a guide to policy, are poor and few in number. Some price statistics on such commodities as crude oil, petroleum products and coal are, however, published regularly in the United Nations *Monthly Bulletin of Statistics* and elsewhere, and some unit values in international trade are available from trade statistics. In addition, general trends in fuel and power prices and related policy problems have received some attention in the context of a number of broader economic studies. Lastly, a study dealing specifically with oil prices in western Europe, a subject raising a number of difficult and complex issues, some of them of a controversial nature, was undertaken by ECE (33).

39. In fuel-importing countries, energy prices are greatly affected by freight rates. Tanker and coal freight rates are subject to violent fluctuations (as may readily be seen by examining statistics on them in the United Nations *Monthly Bulletin of Statistics* and elsewhere); these fluctuations in turn influence prices of domestic energy as well as of imported fuels, because of the competition and substitution constantly going on in the energy field.

40. Competition is at work in two respects: (a) there is competition between different users (for example, in the case of fossil fuels, there are the energy users and the non-energy users, the latter using fossil fuels as raw material in chemical and other industries, while in the case of hydro-power resources there are the energy users and the fishing or nature protectionists); and (b) there is competition between different sources of energy (for example, oil may compete with coal or hydro-power). These types of competition are reflected in and affected by relative prices, which, in turn, effect short-term and long-term changes in utilization of the various sources of energy. Attention has been given to some of the problems involved in such studies, as that on the relationship between coal and black oil in west European fuel markets, undertaken by ECE (34) and elsewhere — for example, at a discussion of the United Nations Scientific Conference on the Conservation and Utilization of Resources (UNSCCUR) on the economics of fuels for various purposes (35).

41. Competition between different energy sources and the importance of relative prices, in turn, are based on the possibilities for substitution. These possibilities are wide, even in the short run. Some thermal power stations, for example, are equipped to use either coal, oil or natural gas alternatively, depending on relative prices. Stations so equipped, it may be noted, can also exert an immediate influence on relative prices. Similarly, many households and industries are in a position to switch from one fuel to another without change of equipment or, as has actually happened, can go over to electric heating in case of fuel rationing. In the case of some uses, however, the possibilities for substitution are technically limited (as in road transportation and the steel industry) or economically limited. Little attention has as yet been given to the problems involved. Systematic study is needed of actual trends and the probable future role of substitution; this would be particularly useful for under-developed countries, in connexion with the formulation of energy policy.

Chapter II

WORK RELATING TO CONVENTIONAL FUELS

42. Various aspects of individual fuels — coal, lignite, peat, petroleum, natural gas, power alcohol — have received consideration in studies, at meetings, or in technical assistance activities. On the other hand, traditional so-called "non-commercial fuels", such as wood, have received little attention, although they still play an important role in under-developed areas and are often inefficiently used.

Coal

43. The first formal estimate of coal reserves of the world was made by the Twelfth International Geological Congress in 1913. Coal resources were considered by the United Nations at the UNSCCUR Conference in 1949. In addition, a report was prepared on coal and iron ore resources in the ECAFE region (36). Other papers on coal resources have been prepared from time to time, at various levels.

44. Little attention has, however, been devoted to the questions of coal prospecting and exploration in under-developed countries. This is surprising in view of the fundamental importance of coal in industrialization as a source both of energy and of raw materials — a source which has a place alongside with, and in some cases as a substitute for, petroleum. Requests for technical assistance in this field have also been very few in number.

45. Coal production has been dealt with in a number of publications and is the subject of regular monthly and quarterly bulletins of coal statistics for Europe (37). The latter also contain information on stocks and mine employment.

46. A related question receiving attention is coal classification. Through the ECE Classification Working Party, an agreement has been achieved on a European system of classification of hard coals by type (38). The Working Party is now dealing with coke and brown coals and lignite. This work is followed closely by ECAFE, which has under consideration a standard coal classification for regional use. ECAFE has also made arrangements to have coal samples tested in more advanced countries.

47. Much attention has been devoted to technical problems of coal production, for example by the ECE Coal Committee and its subsidiary organs, the UNSCCUR Conference, and, to some extent, through technical

assistance. Relatively little has, however, been done with regard to economic problems, such as costs of opening and developing coal mines. A beginning in this direction has, however, been made by studying investments in the coal industry (39) and by examining policy on future development of the coal industry in Europe (40).

48. Among technical production problems are those relating to mining techniques, underground gasification, and coal preparation and carbonization. Each of these was discussed at separate sessions of UNSCCUR (41). Underground gasification is gaining interest as a method of extraction and has accordingly been studied by the ECE and by ECAFE, in the latter case in connexion with a study tour of geologists and mining engineers (5). As regards mining techniques, the ECE recently convened an *ad hoc* meeting of experts on accelerated shaft sinking, shaft-reconstruction and high-speed roadway driving. Various coal preparation problems — coal washing, briquetting, etc. — which are closely related to good coal utilization and efficient output, have been considered at meetings, such as at the *ad hoc* meeting of experts on coal production methods convened by the ECE in March 1957, and in reports, such as in the report on mining and upgrading of coal in Europe (42). These technical problems are closely related to the larger questions facing the coal industry — namely, the necessity for increased productivity through mechanization to offset labour supply problems and rising wages and costs. The broader questions are touched upon in the context of various general economic studies of the ECE and other groups.

49. Other aspects of coal production include labour problems, safety and health. These are specifically studied by the ILO. Lastly, there is the matter of training, which receives attention mostly through technical assistance fellowships.

50. Since coal is bulky and heavy, transport costs are relatively high and location heavily influences the value of coal deposits. The industrial countries generally have well developed transport facilities; there, interest is focused on transport costs of marginal supplies, as is reflected in the kind of coal studies which have been undertaken. In addition, efforts are directed towards the improvement of special transport equipment and experimentation with coal pipe lines. In under-developed countries, on the other hand, the problem is often not so much that of marginal costs but of complete lack or inadequacy of transport facilities. This and the question of associated ancillary investments have received a certain amount of attention from technical assistance experts. In addition, some Bank loans for development of transport facilities have been granted with a view, *inter alia*, to improving coal supplies.

51. Also considered are problems relating to coking coal and, as was mentioned earlier, coal carbonization, the latter mostly with reference to technical aspects (43). Developments in coking coal and coke production and supplies are followed by the ECE Coal Committee and other bodies. The production of coke for metallurgical purposes was also extensively dealt with in a study of the iron and steel industry in Latin America (22). Lastly, coke problems have been taken up in connexion with related problems of gas production and other coal utilization problems.

52. The ECE Utilization Working Party has, *inter alia*, studied coal utilization problems. Other related activities include the publication of a directory of national bodies interested in solid fuel utilization (44), a bibliography on efficient fuel use (45) and a bibliography on coal production methods (46). European co-operation was furthered also through exchange visits and through other collaborative projects in the coal industry.

Lignite and peat

53. Fuels with lower calorific value are coming into greater use as a result of technical advances making such utilization economical and because of the ever-growing fuel demand. Accordingly, increasing attention is being given by ECE (47) and other bodies to questions concerning the proper utilization of low-grade solid fuels, such as brown coal and other types of coal.

54. Surveys of lignite and peat resources are sometimes included in surveys of other fuel resources but much less exploration of these resources has as yet taken place and knowledge concerning them is more limited. The nature of these low-grade fuels is, moreover, such that it is harder to determine to what extent particular deposits are economically exploitable. In general, their low quality severely limits the range of permissible production and transport costs. A number of measures, ranging from geological surveying to the study of specific economic and technical aspects, govern the decision whether to exploit particular deposits. Technical progress in methods of production, processing and utilization is, however, continually broadening the possibilities. And as reserves of lignite and peat are fairly widely distributed, they may prove valuable as an indigenous source of energy in many localities where higher-grade energy resources are lacking or should be conserved. When brought to its most advanced stages of transformation, lignite may indeed meet many kinds of energy needs and be the source of various chemical products. Peat, too, can be transformed by various processes and in some cases the possibilities of its use for production of organic fertilizers is such that its use as a fuel is regarded as uneconomical.

55. Lignite problems have been considered in connexion with some of the ECE studies which have been mentioned, but more work in this field has been done by ECAFE, notably the publication of a major study on the region's lignite resources, their exploration, exploitation and utilization (23). In addition, a group under the auspices of ECAFE and the Technical Assistance Administration (TAA) visited Australia and reported extensively on the Australian lignite industry in relation to the development of low-grade coal deposits in Asia (48). Other work took the form of technical assistance or advice on surveys, on lignite mining and processing, and on peat geology and utilization. More than half a dozen countries in Asia, Europe and Latin America were recipients of such aid. Many of the problems in this field revolve around utilization of these fuels in mine-based electric power plants, an aspect dealt with in much of the above work as well as in other connexions.

Petroleum

56. The general dissemination of knowledge and of information concerning techniques relating to oil prospecting and later stages of operation represents a function of some importance at the international level. Some work has been done along these lines both by the United Nations and others. The World Petroleum Congress, for example, undertook extensive work on technical problems relating to petroleum production, transportation and utilization and studied certain socio-economic problems. At the UNSCCUR Conference, special sessions were devoted to the following topics: techniques of oil and gas discovery and production; new techniques for increasing production of oil and gas, and oil chemistry (41). The most recent step relating to petroleum development was the convening of a symposium on petroleum resources development in Asia and the Far East. The proceedings of the symposium (49) are transmitted to the Economic and Social Council, in accordance with General Assembly

resolution 1319 (XIII). The topics discussed were: geology of petroleum deposits, petroleum potentialities and development possibilities, exploration survey methods, development programmes, safety measures, manpower and equipment, and training facilities. The documentation was extensive; papers ranged from highly specialized to general. Among the latter was a paper on the work of the ILO Petroleum Committee in the field of training (50) and a review of the petroleum industry of the ECAFE region (51).

57. The known oil reserves of the world are smaller and much more localized than the coal reserves. Considerable efforts and capital are spent on proving additional reserves and exploring promising areas. The United Nations contribution in this sphere takes the form, in part, of the provision of technical assistance in the search for suitable locations for drilling, in evaluating oil fields and prospects for finding oil areas, and in improving prospecting methods through the application, in some cases, of specialized disciplines such as micropaleontology. The requests for assistance have come from countries other than those exporting petroleum, as in the latter countries technical problems are dealt with by the petroleum companies.

58. Oil production and oil supplies are the subjects of regular statistical reports and are also discussed in various economic surveys. However, relatively little attention—perhaps because there was little need for it—has been given to technical and economic aspects of oil production. Requests for technical assistance, for example, included only a few relating to specific production problems.

59. Oil refining has been expanding at a high rate and presents some interesting economic problems with respect to location of refineries and composition of output—problems which are reflected in special studies by the OEEC and others. The trend is toward a refining output of an ever-increasing variety of fuels and chemical products in which advantage is taken of different possible combinations, rapidly advancing technology and market needs. In the light of this trend, the work programme of ECLA includes a proposal for a general survey of economic and market conditions for the development of the petro-chemical industries, in relation to a regional market.

60. Thanks to pipelines and tankers, oil is relatively cheaply moved from place to place. However, pipelines and tankers are facilities requiring heavy fixed investment and are, as a rule, not susceptible to alternative use. As a result, tanker freight rates are subject to wide fluctuations, as is reflected in statistics published regularly (52). Pipelines must be based on a substantial demand at the terminal. Where such demand is lacking and other means of transport are used, for example, in the case of supplies to inland locations of under-developed countries, delivered costs of oil may be exceedingly high.

61. Oil production from other than conventional sources—synthetically from coal and, more important, from oil shale—received attention, *inter alia*, at the UNSCCUR Conference. Known shale deposits are very large in some countries and economically possible oil production from this source may be close at hand in several locations. Recently, evidence was encountered in connexion with a technical assistance project, of the possibility of burning oil shale directly, without first going through complicated extraction and refining processes.

Natural and other gas

62. Natural gas is a fuel and chemical raw material of rapidly growing importance in view of its high calorific value, relatively easy transportability in pipelines and

cleanliness in use. Statistics on resources are largely limited to reserves in producing fields, and production statistics published by the United Nations and others are fairly meagre.

63. Most petroleum and natural gas production is closely interrelated. Many of the production problems are common to both. So far, natural gas utilization is to be found chiefly in industrial countries having important domestic resources but more use of it is beginning to be made in certain under-developed countries as well. Technically and economically feasible liquefaction and transport by sea may, in the near future, open up significant prospects of interest both to countries where gas is now wasted and to energy-deficit areas, particularly where these are industrial countries capable of developing facilities for regasification, storage and distribution. Accordingly, the position of natural gas in the European economy and the supply of natural gas to Europe were two subjects of study by the ECE *Ad Hoc* Working Party (53) dealing, since its inception some years ago, with European gas problems in general.

64. A report was also prepared on the trend of the European gas economy (18) and still another study dealt with largely technical problems concerning the improvement of the flexibility of gas production (19). In addition, a bulletin of gas statistics for Europe is published annually (54). Much of the gas supplied in Europe is, of course, manufactured in various traditional facilities based on coal.

65. Agricultural waste and stable manure are another potential source for the production of combustible gases which may merit attention particularly in under-developed countries.

Power alcohol

66. Importance has been attached to power alcohol as a "secondary" fuel, particularly by ECAFE. A seminar on the production and use of power alcohol in Asia and the Far East (55) was organized by ECAFE and TAA with the participation of experts of the Food and Agriculture Organization of the United Nations (FAO). Power alcohol can be produced from various raw materials, including by-products or wastes from the pulp and sugar industries. It may be used as a substitute for gasoline and in other ways. Experience indicates, however, that in peacetime power alcohol is usually too expensive to be used as an alternative to energy from other sources.

Chapter III

NON-CONVENTIONAL ENERGY

67. Several non-conventional sources of energy are of current interest. Work relating to atomic energy will be discussed first, and that on other new sources second. It may be recalled that the Economic and Social Council's consideration, at its twenty-fourth session, of two reports on these two categories of non-conventional energy sources (2, 56), resulted in the Council's request for the present report and for one other submitted to the current session — namely, a progress report (E/3218) on developments relating to non-conventional sources of energy other than the atom.

Atomic energy

68. The voluminous proceedings of the two international conferences on the peaceful uses of atomic energy held at Geneva in 1955 and 1958, respectively, reflect the vast range of problems that have been or need to be considered, particularly in nuclear science and

engineering, to bring atomic energy into application for peaceful purposes. The International Atomic Energy Agency (IAEA) is specially equipped to follow and promote scientific and other developments in this field, while a number of other organizations are concerned with one or more aspects which are closely related to fields such as power development *per se*.

69. Radioactive minerals yielding the new "fuels", uranium and thorium, have aroused considerable interest. The exploration for and development of radioactive minerals are closely related to those of minerals in general. The methods of exploration and prospecting, for example, differ from normal geological prospecting only in that Geiger counters and similar equipment are used in locating deposits.

70. The known radioactive mineral resources are large and widely distributed. They vary considerably in degree of concentration and consequently in economic values. For this reason, and owing to the fact that new discoveries occur frequently at the present stage, it is difficult to estimate total world resources. Nevertheless, a review of resources was made at the first International Conference on the Peaceful Uses of Atomic Energy (one volume of the *Proceedings* is devoted to this subject) (57), and another review made at the second Geneva Conference. In addition, a survey was undertaken of radioactive mineral deposits in Asia and the Far East (58) and various other papers on related questions have been prepared. Under-developed countries have made several requests, moreover, for technical assistance in uranium prospecting and organization and for equipment.

71. One of the reports considered by the Council at its twenty-fourth session, as noted above, dealt with the economic applications of atomic energy. The report analysed the factors which would affect the practical application of atomic energy in power generation, industry and agriculture, giving the position as of 1957 in this fast-moving field. The study was based partly on experience reported at the first Geneva Conference and partly on experience which had come to light since that time. It has been transmitted to and considered by a number of organizations pursuant to the Council's request. Further economic information has now become available as a result of the second Geneva Conference. This material and the results of actual operations gradually getting under way in several parts of the world will require further observation.

72. At the regional level, too, the results of the first Geneva Conference, as they related to electricity generation, have been reviewed (59).

73. As distinct from atomic energy in general, for which there are many practical uses, the narrower field of nuclear energy is of particular interest from the energy point of view as a source of heat and electricity. Aside from various problems related to reactor development, choice of reactors and promotion of nuclear power, the question of nuclear power production is gradually becoming more one of economic rather than technical feasibility. The economic feasibility of nuclear power is a matter of relative costs, since electricity produced from it is no different from electricity from other sources. Determination of economic feasibility entails the study and evaluation of nuclear power in relation to all other forms of energy sources relevant to economic development. This is being done by the Secretariat, on a continuous basis, in accordance with Council resolution 653 I (XXIV), and in close co-operation with the IAEA.

74. As nuclear power generation becomes a more practical reality in under-developed countries, it may be expected that a large and growing number of requests

for technical assistance experts will be forthcoming from these countries. They will address themselves to the IAEA for help on specific nuclear power problems and to the United Nations for help in connexion with more general power and energy problems. At the present early stage, assistance has mainly consisted of fellowships. In addition, the Bank has rendered aid to Italy in connexion with an advanced practical project and has generally taken a keen interest in nuclear power.

75. Among the other practical applications are the uses of radioactive isotopes in industry, agriculture, medicine, meteorology and general research. While problems related to these uses are of direct interest to and studied by the IAEA, on the one hand, and the United Nations, the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), the World Meteorological Organization (WMO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO), respectively, on the other, they are marginal from an energy point of view and need not be elaborated here. It may be noted, however, that radioisotopes find one of their most important industrial uses in the petroleum industry.

76. The development of nuclear power and other uses of atomic energy entail numerous special problems, such as radiation hazards and other industrial health problems, problems of radioactive waste disposal, unusually complicated scientific and technical problems, and the related training and manpower problems, insurance problems, and so forth. Work on these and similar problems is carried out in various degrees by the IAEA, the United Nations and several specialized agencies.

Other new sources of energy

77. The main sources in this category are solar energy, wind energy, geothermic energy, tidal energy and thermal energy of the seas. Interest in their development is keen because of ever-growing energy requirements and the pressure on or lack of conventional sources. Technical progress brings ever closer the possibility of their wider economic application. Their use may eventually fill a variety of needs in many countries and particularly in under-developed areas remote from power networks and fuel supplies.

78. As will be recalled, the Council has evinced its interest in the development of these new sources by requesting the Secretary-General to prepare the report on prospects for their practical utilization. As was mentioned earlier, this was submitted to the Council at its twenty-fourth session (56). The report presented a comparative study of the five new sources, and briefly reviewed the methods which have been devised to control and utilize them for economic purposes. It also examined the role they might play in the production of electric power and in other uses. Included in the report was a substantial bibliography assembled by UNESCO. UNESCO has also encouraged basic research in this field by convening in 1954 a symposium on wind and solar energy (60) and through work in connexion with its major programme of arid zone research. In addition, some consideration has been given to the new sources at the regional level. Lastly, some requests for technical assistance in this field were received, relating mainly to wind power and geothermic energy.

79. Inasmuch as a separate progress report (E/3218) on more recent developments in this field is now before the Council, it is not necessary to mention these developments here. It is sufficient to mention that some of the applications for solar energy have entered the industrial

stage, while others appear to be on the threshold of doing so. Progress has also been achieved in wind power. In this field, as in the case of solar energy, widely dispersed activities are carried on in applied research, experimentation and actual application. In addition, fully developed techniques in the field of geothermic energy are offering important possibilities for the generation of cheap electricity; this source, which is apparently available in many locations, has been little explored and is only now beginning to achieve the recognition it would seem to merit. There appears to be less progress to report with regard to energy of the sea. However, active work on tidal power exploitation is known to be going ahead in a few locations.

80. A dilemma is posed by the fact that, whereas the new sources of energy may, in some cases, find their greatest applicability in energy-poor countries, the latter depend on the industrial countries to develop the required techniques and to manufacture relevant equipment. But the industrialized countries lack the incentive of a domestic market and may not recognize the possibilities of the market in under-developed countries. This dilemma may be solved by drawing the possibilities of these new sources for the under-developed countries to the attention both of the under-developed countries and of the industrialized countries. This course is implicit in the Council's resolution 653 III (XXIV) requesting the Secretary-General to present recommendations regarding an agenda for an international conference on the new sources and their economic application (E/3218).

Chapter IV

ELECTRIC POWER

81. Electricity is a distinct form of energy obtainable from any of the energy sources which have been discussed. Indeed, some of these energy sources find their main use in electricity production, which represents an increasingly important intermediary stage between energy resource exploitation and final use.

82. Electric power plays a key role in the infrastructure of industrial countries; it is a pre-condition of industrialization and of economic development in general. Accordingly, a considerable amount of work has been devoted to the electric power field by technical assistance experts and by the United Nations Secretariat.

83. One aspect of the work is the publication of statistics on installed capacity and output. Such statistics are included in general statistical publications, such as the United Nations *Statistical Yearbook*, and in regional publications, such as the electric power bulletin published by ECAFE, which also reviews developments in the public electricity supply of the ECAFE region (61); and the quarterly and annual bulletins of electric energy statistics for Europe published by the ECE—for the past several years, an ECE Working Party on Electric Power Statistics has been meeting (62). The ECE also publishes an annual report on the power situation in Europe (24). Lastly, statistical and other data are analysed in general and regional economic surveys or energy surveys too numerous to mention.

84. Some attention has also been given to comparative studies of the economics of electricity production from various sources—that is, conventional-fuel-based or thermal power, nuclear power and hydroelectric and other non-fuel power (2, 56). Characteristic differences in the economics of these various types of electricity production relate to such factors as investment requirements,

production cost, reliability of electricity supply, flexibility as regards location, and comparative transmission or fuel transport costs. These differences have to be carefully weighed in arriving at the most favourable type of plant or combination of plants called for in a given situation.

85. Technical assistance in the preparation or review of country-wide electrification plans has been rendered to a number of Governments requesting such aid. The assistance usually entails four tasks, namely: (a) determination of the appropriate location for the prospective generation, transmission and distribution facilities; (b) estimation of the location and time-schedule of existing electricity demand; (c) estimation of capital, foreign exchange and other costs involved; (d) formulation of recommendations for an electrification programme which is realistic from the point of view of the country's financial and other commitments and its local conditions.

86. These technical assistance activities are kept under review by the Bureau of Economic Affairs in an effort to ensure that the various interrelated economic aspects are given due attention and emphasis. A number of typical problems are encountered in this "backstopping" of technical assistance. One is the difficulty of high costs because of small-scale operations. Another is the difficulty of planning one part of a system in the absence of knowledge concerning other parts not yet planned, for example, the difficulty of designing a country-wide transmission system before it has been determined where the generating stations are to be located, what the generating costs will be and what are the potentialities of the electricity market. Other problems concern choice of fuel and appropriate size and location of generating units.

87. In addition, a considerable number of requests have been received for technical assistance in connexion with the construction of hydro-power plants. A variety of specialists have been involved in the technical aid rendered: geologists, mechanical, civil and electrical engineers and other experts. In the more advanced under-developed countries, the construction is generally undertaken by local organizations, technical assistance experts being called in to deal with certain technical aspects such as design checking. But in countries where technical and organizational personnel for power-plant construction is still lacking, the plants are built by foreign firms. In such cases, technical assistance experts are called in to check deliveries, qualitative standards, schedules and so forth.

88. Related hydraulic construction problems have been considered at a number of meetings convened under United Nations auspices. For example, at the ECAFE Third Regional Technical Conference on Water Resources Development, held at Manila in 1957 (63), two of the questions considered were: manual labour and its more effective use in competition with machines for earthwork in the ECAFE region; and construction of water resources development projects — government agency versus private contractor. Further attention will be given to the former question at the forthcoming meeting of the Working Party on Earth-moving Operations to be convened jointly by ECAFE and the Bureau of Economic Affairs. The ECE has also held meetings of specialists and issued reports on such subjects as mechanization in hydro-power plant construction (64), cost components of embankment and surface excavation involving the shifting of earth or rock (65), and pumping plants (66).

89. While only a minor portion of the world's potential hydropower resources has been harnessed, hydro-electric development is gaining momentum and often plays a large role in development plans. In many cases, hydroelectric projects have been financed with the help of Bank loans. In fact, this field accounts for an

important share of Bank loans to date, and the Bank has accumulated wide experience in the complex task of evaluating such projects.

90. The present trend is towards integration of hydro-power development within river basin development in general. The growing importance attached to integrated development, in which hydro-power often plays a key role, is reflected in the fact that a considerable amount of work has been devoted to this field (63, 67).

91. Hydro-power development on international rivers (along with other development projects on such rivers) raises some special problems as well as opportunities for promoting co-operation among the countries concerned. Developments in this sphere are closely followed at the Water Resources Development Centre and at the regional level. The Mekong Project, initiated by ECAFE, and subsequently the recipient of technical and other assistance, is perhaps the best-known concrete project of this kind undertaken at the present time (68). In addition, a great deal of work has been accomplished by the ECE — through the ECE Electric Power Committee and its subsidiary Group of Experts for the Study of Legal Questions — in the more limited field of hydro-electric power development on international European rivers (32, 69).

92. In addition to the problems related to hydro-power plant construction and hydraulic works, a number of other technical problems in the electric power field have been dealt with through numerous technical assistance requests and in regional and other studies. The ECE Electric Power Committee has examined the prospects opened by technical advances in electric power production (70) and has studied certain technical aspects of electric power transmission (71), while ECAFE has looked into the question of lignite utilization in power stations (23). Moreover, a group of electric power experts from Asia and the Far East inspected the electric power industry in Europe, the United States and the USSR through a study tour organized jointly by the TAA and ECAFE (72).

93. Technical work on standards and international standardization is centred in the International Organization for Standardization (ISO) and its affiliate, the International Electrotechnical Commission. Regional aspects of standardization practices have been taken up by ECAFE (73) and by the ECE Electric Power Committee, which sent recommendations to the ISO on turbo-alternators.

94. Other activities in the electric power field relate to electric equipment, its supply and utilization. ECAFE has examined such questions as the requirements and availability of electric power plant and equipment (74) and the general conditions for the supply of plant and machinery for export (75). This was done in close co-operation with the ECE, which has looked into equipment production facilities in the light of new power plant developments. The ECE's work in this sphere included the setting up of working parties on a number of specific subjects — ball bearings, silica bricks, conveyor belts, porcelain insulators and transformer laminations — and the consideration of such other equipment as turbo-alternators, boilers, water turbines and large transformers (76).

95. The organization of electricity systems has emerged as a problem in several countries, some of which have requested technical assistance in this field. The problems vary according to ownership (central government, municipal, private), form of state control, degree of electrification and other factors. Some years

ago, ECAFE issued a report on organizational problems involved in power projects (77); more recently it has looked into the question of statistical data in planning and operating power systems (78). The ECE compiled information on such questions as the organization of electric power services in Europe (79) and the depreciation of plants owned by electricity undertakings (80). In addition, the ECE Group of Experts for the Study of Legal Questions has collected information, *inter alia*, on electricity supply contracts and on arbitration clauses, and will conduct an inquiry on the privileges enjoyed by electric power producers and power transmission and distribution concessionaires.

96. Electricity tariffs is another problem which has been receiving attention through technical assistance. The question of tariffs is a rather complicated one, particularly in under-developed countries. Governments are faced with it irrespective of whether they own the electricity system or whether they are responsible only for its supervision and for the negotiation of private concessions. Electricity tariffs are normally designed to produce enough revenue to cover costs, but sometimes they also serve as an instrument of economic policy. In any case they have an important bearing on the characteristics and development of electricity demand and supply. For example, the tariff structure affects the ability to finance replacement and expansion of plant, an aspect which has repeatedly been stressed by the Bank and studied to some extent by the ECE (81) and ECLA.

97. Existing administration problems point to the need for more training in general, especially in those branches of activity which must be carried out by local personnel. The training of personnel in the specific field of electric power development and operation—particularly the technical aspects of such training—has been given a certain amount of attention by ECAFE (82), by technical assistance experts and through fellowships.

98. Increasing attention has been given to the particular problems inherent in rural electrification. Wide experience in this sphere has been acquired in industrial countries. While this experience merits the attention of the under-developed countries, it cannot be directly applied, because conditions and objectives in the under-developed countries are different, for example as regards the replacement of animal labour, greater employment in dead season and modernization of village industries.

99. A great deal of work on rural electrification in Europe has been accomplished by ECE and its Working Party for the Study of Rural Electrification. This includes the publication of an annual report on the state of rural electrification in Europe (83) and a considerable number of studies dealing with general and specific aspects of the subject (84). Other regions have been less well covered. However, in 1954 ECAFE published a report on the current status of rural electrification inside and outside the region and on a number of technical and other aspects (85). More recently, ECAFE has dealt with such questions as rural electrification demonstration centres (86), small hydroelectric plants for rural electrification (87) and a number of others. In addition, a working party on the utilization of wood poles will be convened by ECAFE in co-operation with FAO (FAO also co-operates in the European work). In Latin America, a seminar on rural electrification co-operatives was convened in 1957 by the Pan-American Union. Lastly, the Bureau of Economic Affairs, at Headquarters, deals with such rural electrification problems—particularly with respect to their economic aspects—as arise in connexion with the servicing of technical assistance missions.

Chapter V

EXPERIENCE GAINED FROM AND PROBLEMS ENCOUNTERED IN UNITED NATIONS TECHNICAL ASSISTANCE

100. One of the features of the United Nations technical assistance service is its unique facility to draw freely upon expert knowledge in any part of the world, unimpeded by political or other special interests. Another is the close relationship between technical assistance activities and the studies and research conducted in the Secretariat.

101. The requests received from the under-developed countries for technical assistance in the development of energy resources may be said to fall into five broad categories:

(a) *General economic surveys*: These surveys are required to review over-all economic problems, including those related to energy supply. It is also usually required to indicate the degree of priority which should be given to energy development and to the study of energy resources;

(b) *Resources studies*: In such cases experts are asked to determine the national potential resources of hydro-power and/or fossil fuel;

(c) *Resource utilization development*: This group includes requests for the preparation of a specific hydro-power project, the opening of a mine, the development of petroleum production, or similar technical assistance;

(d) *Electrification studies*: These entail technical assistance in connexion with country-wide electrification schemes or the construction of electricity networks for certain towns or areas. They also include the building up of transmission lines and advice on the establishment of grid systems;

(e) *Regional conferences or seminars and study groups*: These cover regional meetings to discuss specific energy problems, for example the use of power alcohol or wind power, as well as study tours by experts from one region in another to look into such questions as the utilization of lignite, and the manufacture of electric equipment.

102. It may be seen from this enumeration that the United Nations technical assistance activities cover all fields and all stages of energy development. In each case, detailed expert reports and recommendations are submitted to the requesting countries. These reports are not published except with the consent of the Government concerned and unless they are considered to be of wider interest.

103. On the basis of this varied experience, it may be useful briefly to review the most pressing problems encountered in dealing with conditions prevailing in under-developed countries.

Importance of preliminary investigations

104. A lack of knowledge concerning local energy resources often impedes energy development; it may also lead to the wrong kind of investments. Hydro-power exploitation and fuel mining require many years of preparatory work; unless the survey of such resources is initiated early, their utilization may be postponed for years. Moreover, it is not enough to have a partial knowledge of these resources, unless they are of high quality and favourably located, because partial knowledge may lead to development decisions that would by no means be advisable in the light of a more extensive survey. In this dilemma, the fact that expensive projects, relating for example to coal deposits or hydro-power sites, sometimes turn out to be of much less value than other projects which might have been selected, is

perhaps not surprising. Proper surveys may thus be regarded as a priority task needed to prevent economically unsound development and to enable evaluation of various possibilities.

105. In the case of those under-developed countries and areas which lack adequate sources of conventional energy, such as coal, petroleum or water power, these surveys must take into account possibilities for the development of at least some energy supplies from unconventional sources, such as agricultural by-products, wind energy, solar energy and hot springs.

106. Preliminary surveys are also important as regards decisions concerning the type, location and design of energy projects. It is particularly important to compare a prospective power project with possible alternative projects (thermal versus hydro-power plant, one hydro-power site versus another). In the fields of topography, geology and especially hydrology, investigations are often inadequate. The design of many hydro-power projects is based on only a few years of river-flow measurement supplemented by the questionable results of a longer period of rainfall correlation.

Technical advice and economic evaluation

107. When under-developed countries submit requests for assistance in energy development, they almost always ask for engineers, geologists and other specialized technical personnel and not for energy economists. Similarly, the decisions on and the planning and execution of energy projects of all kinds are usually in the hands of engineers.

108. The most difficult problems relating to energy in under-developed countries have, however, been found to be usually economic and administrative, and not scientific and technical. This is particularly the case in the least developed countries, where the experts may be required to make recommendations on the advisability of constructing power plants and transmission lines, on that of opening mines, and so forth. Their recommendations may be decisive in the formative stages of development and may have great consequences in terms of capital commitments of the countries concerned.

109. The technicians in question do evaluate cost aspects of projects and assess energy demand, probable utilization of equipment and similar factors. But they are usually not in a position, nor is it really their task, to study the over-all effects of their proposals on the economy as a whole. Moreover, technicians whose experience has been limited to conditions prevailing in highly advanced economies may find it difficult to take into account the differences — as regards many important economic and administrative factors involved in energy developments — between conditions in industrialized countries and in under-developed countries. In this lies a difficulty over and above that entailed in finding suitable means of adapting techniques and equipment to local conditions.²

110. The systematic backstopping of engineering reports has revealed a widely prevalent failure, in the under-developed countries, to make economic evaluations and even to appreciate the importance of such evaluations.

111. A common practice, for example, is to estimate investment costs of a project on the basis of unreal unit

costs and to make little or no provision for cost increase due to inflation or other contingencies. Nor is provision always made for interest accruing during construction. The impact of long transmission lines on the capital and operating costs of hydro-power projects is often underestimated. The fact is that capital costs of energy development per kilowatt, or, in the case of fuel, per ton of annual capacity, are usually higher in under-developed than in industrial countries and the difference is even greater in relation to the capital resources available locally. Moreover, energy development in an under-developed area often requires ancillary expenditure on the construction of additional transport facilities such as roads, railways, transmission lines, river transport and pipelines, so that a total capital expenditure amounting in some cases to several times the normal costs per kilowatt or per ton of coal has to be taken into account. What is also entailed, in countries without a substantial manufacturing capacity, is the necessity to import most of the equipment, from the generator to the electric bulb and from the electric wire to the electric motor. Thus energy development, particularly electrification, is very foreign-exchange intensive.

112. Not infrequently, the cost of the energy product is also underestimated. In the case of hydro-power, allowances for depreciation are often unrealistic and rates of return abnormally low. In the case of thermal plants, fuel consumption is sometimes estimated on the assumption that the plant will be operating continuously at its optimum output. Cost of transportation of fuel is in many cases underestimated and transportation bottlenecks overlooked.

113. Finally a few observations may be made with regard to financing and tariffs. Plans for financing are sometimes left vague. The result is that the execution of a project has, at some point, to be interrupted or delayed while arrangements for additional funds are completed. Low rates of return and provisions restricting transfer of funds to foreign investors are added factors limiting the amount of available capital. As regards tariffs, they are frequently insufficient to enable electricity companies, whether public or private, to achieve or maintain a sound financial position. That is, tariffs are too low to provide an adequate return on the investment and to cover operating costs, interest, taxes, depreciation or amortization of debt (whichever is larger), and to provide reserves to finance a reasonable portion of the costs of expansion.

Organization, administration and maintenance

114. Whereas the construction of power plants and similar physical assets can be planned and carried out by foreign experts, the organization, administration and maintenance of installations must, apart from assistance in the initial stages, be carried out by local personnel.

115. The shortage of properly trained personnel can be alleviated somewhat through fellowships and scholarships, if the Governments concerned request such assistance. But there exists no such solution for the lack of lower-level administrators. These can only be trained on the spot. Unfortunately, it is often difficult to obtain the direct co-operation of the Government for a programme of in-training.

116. Instability and inefficiency in organization and administration are widely prevalent weaknesses, with effects which are perhaps especially grave in the energy field. The instability is due to changes, in some cases very frequent, of administrative authority or personnel. The inefficiency has a number of root causes. One is insufficient autonomy, as a result of which electricity

² Existing technology and equipment are, for the most part, based on the energy resource conditions and plant capacity requirements of industrial countries. Insufficient attention has as yet been given to the production of small, low-cost hydro-power and other units such as are needed in under-developed countries. Some progress has, however, been made in this direction recently.

organizations suffer from political interference in policy decisions and from lack of control over appointments to management posts. Another is lack of competent and experienced personnel for the key positions. Still another may be poor organization within the power company itself, with too much bureaucracy and over-centralization. Lastly, there may be undue reluctance on the part of the company to hire the services of needed consultants.

117. Similar problems arise as regards the related question of maintenance, or the proper upkeep of physical facilities. The shortage of trained engineers and skilled workers makes itself felt in this sphere and, in under-developed countries, there is the added difficulty of having to keep on hand an adequate supply of spare parts. The importance of proper maintenance and spare parts practices is, moreover, not well understood in under-developed countries. All in all, the result is that an undue proportion of valuable equipment is allowed to remain idle due to breakdowns.

118. Technical assistance experience in administration and maintenance in the energy field leads to the conclusion that provision for the training of personnel should be made as early as the project planning stage so as to ensure a sufficient number of trained local personnel for the operation, administration and maintenance of energy facilities after construction. The alternative appears to be a slackening in the pace of energy development, especially electrification.

Need for a co-ordinated over-all energy development policy

119. In most under-developed countries there is no over-all energy development policy and there is no office or ministry charged with preparing such a policy. Each department simply promotes its own plans, without reference to work proceeding elsewhere and without co-ordination. Sometimes extreme cases are encountered. As a result, a situation may develop in which hydro-power development is in the hands of one department, while thermal power stations and electricity distribution are under the supervision of another. This may have bizarre consequences. For example, a hydro-power plant constructed by the first department may remain inoperative because the second department fails to construct a transmission line to link it up to the power market.

120. Most cases of lack of co-ordination and co-operation among government departments are less extreme. However, their consequences are grave enough. To illustrate, rapid expansion of petroleum consumption may be brought about through the use of diesel plant and heavy-oil fuelled equipment in countries possessing favourable energy resources other than petroleum and no petroleum reserves or refineries. Or, to give another example, a country may undertake to develop a high-cost deposit in a remote location while neglecting more favourable, well-located reserves.

121. The existing need for co-ordination and over-all energy development programming has rarely been translated into requests for technical assistance in this sphere. The explanation may lie in the very absence, referred to above, of a central government service in charge of co-ordinating or programming over-all energy development. Such requests as have come in originate in individual departments.

Co-ordination of technical assistance activities

122. Under-developed countries receive technical assistance not only from the United Nations and the specialized agencies but also from other international

organizations and from various countries on a bilateral basis. Hence several experts, sent by different bodies, may find themselves working in the same sphere or closely related spheres. This state of affairs may create difficulties which are particularly vexing in the energy field owing to its complexity. For example, technical assistance experts may be requested to prepare or to evaluate a large-scale hydro-power project in a country where over-all electricity programming is already the responsibility of another group of experts. In these circumstances, differences which might easily have been obviated had there been prior general co-ordination are likely to develop in connexion with the priorities to be allocated to the various projects.

123. In principle the co-ordination of various technical assistance activities in the energy field should be the responsibility of the Government requesting such assistance. In reality, few countries have succeeded in establishing such co-ordination to the extent that the full benefit is derived from technical assistance offered simultaneously by a variety of organizations. There is, at the same time, often little or no organized co-ordination and co-operation between these organizations.

Chapter VI

SUMMARY AND CONCLUSIONS

124. From the review of activities in the field of energy presented in the preceding chapters, a few conclusions may be drawn to guide future work with a view particularly to maximizing the assistance which can be given by the United Nations to less developed countries for the development of their energy resources.

125. The importance of energy as a basic factor in development has increasingly received wide recognition both in studies and in technical assistance undertaken by organizations inside and outside the United Nations family. However, the various problems dealt with have not always been accorded due emphasis on the basis of their relative significance, and several important ones have been neglected or overlooked entirely.

126. An attempt is made below to distinguish between areas that appear to be satisfactorily covered, judging from the direction of present activities, and those which are not so well provided for.

Technology of fuel and power exploitation and utilization

127. As was seen in the chapters dealing with fuel and power, most of the studies and reports on individual fuels and electric power are of a technical nature. In addition, technological developments relating to prospecting, production and utilization are closely followed by a number of international organizations, governmental and non-governmental, and are reviewed by the sub-committees of ECAFE and particularly of ECE. Moreover, adequate machinery exists to ensure that the information so obtained receives wide distribution and reaches the interested parties. Although there may be room for some improvement, there is good reason to believe that the present activities are satisfactory and need only to be broadened in scope, especially as far as new sources of energy are concerned.

Economic aspects of energy development: problems of global interest

128. Economic problems of global interest are mainly those concerning resources appraisal, energy requirements, international trade and prices.

129. As regards energy requirements, the techniques of energy demand forecasting are the subject of many exchanges of opinion and, while it might be desirable to augment the work being done, it is on the whole sufficient to ensure that the question will receive continuing attention. The same is more or less true of questions of international trade.

130. Early action, however, is required on the matters of resources appraisal and the analysis of long-term costs and prices of fuel and power. Both questions are of paramount interest not only for energy studies concerning the world as a whole but also in connexion with the study of the interrelationship of supply and demand in a given region, country or area. Such supply and demand questions are, to a certain extent, dealt with on a continuing basis by ECE and by ECLA, while ECAFE has recently established a comprehensive programme of studies in this sphere (see annex D). Since, however, current methods of energy resources evaluation and available resource data leave much to be desired, as do data on long-term trends of costs and prices of fuel and power, it is difficult to draw reliable economic conclusions.

131. Present methods of energy resource appraisal are mainly based on measurement of physical availabilities. Factors relating to economic exploitability are often not taken into sufficient account and there exist as yet no agreed resource appraisal methods incorporating these factors. Moreover, constant progress in methods of exploration and utilization of conventional and non-conventional sources of energy makes it necessary periodically to reappraise energy reserves.

132. Long-term cost and price data and analysis are needed not only because costs and prices greatly influence the relative roles of the various fuels and power sources but also because they have a considerable impact on international fuel trade and the orientation of capital investment.

133. The following suggestions are made as regards action at the global level:

(a) With the help of a panel of experts and the co-operation of international organizations such as the World Power Conference an effort may usefully be made by the United Nations to develop methods for the economic appraisal of energy resources on a comparable international basis. As an integral part of this step, the recommended principles might be applied in a preliminary presentation of selected energy resource data. An appraisal of world energy resources would subsequently be prepared, with the understanding that it would be revised periodically, say every five years, in order to incorporate new data and, if necessary, new energy resources;

(b) An analysis of long-term costs and prices of fuel and power in a number of selected countries is considered another priority task. In the selection of the countries an effort would be made to include countries with different energy resource conditions and different levels of energy consumption.

*Economic aspects of energy development
in under-developed countries*

134. Of the studies and reports published by the various organs of the United Nations and by others, relatively few deal with the intricate, underlying economic problems of energy development. Moreover, they mostly refer to conditions in industrialized countries, which are rarely found in less-developed areas. A number of questions might be enumerated which have as yet received little or no attention. They include, for example, the development of remote energy resources in places

with inadequate transport facilities; means of satisfying energy requirements where the demand is small or widely dispersed; ratio of investments in energy-producing plants and energy-utilizing plants under various circumstances or patterns of industrialization; and foreign exchange expenditures entailed at various stages of energy development in countries not manufacturing their own equipment. In these circumstances, officials responsible for energy development in less-developed countries and experts called upon to advise them on specific matters lack the economic guidance needed to help them integrate engineering plans into the context of existing economic development conditions.

135. A great gap has thus to be filled and one appropriate way for the United Nations to help achieve this might be to convene seminars on economic aspects of energy development in which officials of such ministries as public works, power, development, economy, etc., would participate.

136. The success of such seminars naturally depends very largely upon adequate preparation. This might be entrusted to the Bureau of Economic Affairs which, in co-operation with the regional offices, would prepare systematic outlines and background papers based, *inter alia*, on experience in technical assistance.

137. The papers thus prepared might in due course be given a wider distribution among still other officials in under-developed countries bearing important responsibilities in these fields. Such systematic papers would, in addition, serve as useful material in guiding and briefing technical assistance experts, who usually go forth from industrial countries to advise on technical matters but inevitably have to take the special economic problems of under-developed countries into account.

138. It is suggested that, in the beginning, emphasis should be placed on the economics of electrification in under-developed countries. Among the items which the agenda of a first seminar might include are the following: comparative over-all capital and operating costs of different electricity-producing systems; means of lowering capital costs in electrification; electrification and foreign exchange costs; structure of power consumption and load factor; electricity tariffs; developmental effects of electrification; and organization of the electric power industry.

Problems of technical assistance co-ordination

139. Reference was made earlier to the problems arising from lack of co-ordination among the various bodies rendering technical assistance to under-developed countries in the field of energy.

140. Although no systematic measure which would fully remedy this situation appears feasible at the present stage, a valuable step in the right direction suggests itself in the form of a comprehensive survey of the technical assistance rendered by various bodies in the field of energy. This might appropriately be undertaken by the United Nations. Such a step might in itself encourage further co-operation and facilitate co-ordination in the early stages of related energy projects.

ANNEX A

UNITED NATIONS: ORGANS DEALING WITH ENERGY PROBLEMS

1. The United Nations deals with various aspects of energy resources in connexion with a variety of activities and problems, particularly those related to economic development. The following description, intended as a background for the substantive review in the body of the report, is

restricted to organs of the United Nations whose activities are most directly related to energy problems, at the global and regional levels.

*Economic and Social Council and the Secretariat
at Headquarters*

2. The Economic and Social Council constitutes the focal point for initiation of action and co-ordination of activities in the energy field, since energy problems *per se* are not the direct province of any functional commission. One type of action at the global level is the convening of international conferences.^a Other types arise, for example, from resolutions 345 (XII) and 653 (XXIV). In the former, the Secretary-General is requested, *inter alia*, to initiate a programme designed to promote the systematic survey and inventory of resources, including the development of standard concepts, and to consider specific resource survey and inventory problems;^b in the latter he is requested, *inter alia*, "to follow the relationship of all forms of conventional and of atomic and other new sources of energy to economic development, particularly of the under-developed countries, as parts of his continuing work in the field of conservation and utilization of non-agricultural resources pursuant to Council resolution 345 (XII)".

3. Council resolutions are implemented by the Secretariat at Headquarters unless there is a specific request addressed by the Council to the regional commissions or other bodies. The preparation of studies and other activities at the global level, requested by the Council or otherwise coming within the Secretary-General's responsibility in the field of energy resources, are functions of the Resources and Industry Branch of the Bureau of Economic Affairs. The Branch, which relies on consultants for work of a particularly specialized technical nature, is also responsible for substantive "backstopping" or servicing of a considerable and increasing amount of technical assistance in the energy field. It may be expected that this work will be further augmented as a result of the recent establishment of the Special Fund which is to rely as far as possible on the existing facilities of the United Nations (see General Assembly resolution 1240 (XIII), Part B, paras. 29, 34 and 39).

4. Another unit in the Department of Economic and Social Affairs, the Statistical Office, as part of its general responsibility for statistics, collects energy statistics on a world-wide basis and publishes various energy data in special and general statistical reports.

5. The administrative servicing of most energy development projects under the Expanded Programme of Technical Assistance, as well as those coming under the regular programme, is the responsibility of the Bureau of Technical Assistance Operations in the same Department.

Regional economic commissions and their secretariats

6. In the various regional economic commissions, an elaborate organizational structure has been built up to deal with energy problems. This is particularly the case in the relevant work of ECAFE and ECE, both of which operate mainly through a number of committees, sub-committees, working parties, groups of experts, seminars and study tours. These subsidiary organs and groups, composed largely of engineers, serve to bring about an exchange of experience and information among experts within the region.

7. The principal subsidiary organ of ECAFE concerned, *inter alia*, with energy is the Committee on Industry and Natural Resources. This committee was established in 1949 and until 1957 was known as the Committee on Industry and

Trade. Its Sub-Committee on Electric Power was established in 1951. More recently a Sub-Committee on Mineral Resources was set up, which deals in part with fuel resources. There is also a Working Party of Senior Geologists, now functioning on a continuous basis and charged with the preparation of geological and mineral maps of the region and related work. Other organs, of a more subsidiary and temporary nature, include a Working Party on Assessment of Hydroelectric Potentials, a Working Party on the Utilization of Wood Poles (for rural electrification) to be convened in 1959, and a Working Group of Experts on Mining Legislation. Mention may also be made of work through seminars (one on power alcohol in 1952), symposia (one on petroleum resources in 1958) and study tours by experts from the ECAFE region.^c

8. In the ECAFE secretariat, the relevant activities are the responsibility of the Industry and Trade Division, through its Electric Power Section and its Mineral Resources Development Section, respectively. Certain related activities are the sphere of still another unit, the Bureau of Flood Control and Water Resources Development.

9. In the ECE, there are three permanent subsidiary bodies dealing with energy problems and reporting directly to the Commission, namely, the Coal Committee, the Committee on Electric Power and an *Ad hoc* Working Party on Gas Problems. In addition, a Special Meeting of Government Experts on Energy Problems was convened in March 1958.

10. The ECE Coal Committee is, in turn, the parent body of four subsidiaries of long standing—namely, a Coal Trade Sub-Committee, which in 1950 replaced the Allocations Sub-Committee and the Allocations Working Party, and three Working Parties—on coal statistics, coal utilization and coal classification. In addition, the Coal Committee has employed a number of temporary working parties and *ad hoc* groups and meetings of experts. One of the earliest was a Briquetting Pitch Working Party; more recently a group of experts was appointed to examine the general conditions of sale for the import and export of solid fuels and another group to draft general conditions for the import and export of solid fuels; also, an *ad hoc* meeting of experts on production methods and another on accelerated shaft sinking, shaft reconstruction and high speed roadway driving were convened. Moreover, study tours to coal mines are organized as part of the procedure for exchanging information.

11. The ECE Committee on Electric Power also has a number of subsidiaries of long standing—namely, a Working Party on Electric Power Statistics, a Working Party for the Study of Rural Electrification, a Group of Experts for the Study of Hydroelectric Resources in Europe and a Group of Experts for the Study of Legal Questions. There is also, in connexion with the so-called "Yougelexport" scheme, a Co-ordination Committee, together with Economic, Technical, Financial and Legal Committees. Like the Coal Committee, the Electric Power Committee has employed numerous temporary working parties or *ad hoc* groups of experts in connexion with a variety of questions, for example, turbo-alternator sets and daily pumping and production in back-pressure plants. Among the more recent temporary organs is a drafting committee for inquiry into the economic aspects of the influence of mechanization on the construction of hydro-power stations, which was set up following a meeting of specialists on this subject. Study tours in the region are arranged from time to time, particularly in connexion with work on rural electrification.

12. In the ECE secretariat, the work related to the fields and organs mentioned above has been pursued through a Coal and Gas Section and an Electric Power Section in the Industry Division and more recently, through the Energy Division.

13. The Economic Commission for Latin America approaches energy problems in the broad context of economic development and of surveys on non-agricultural resources at the regional and national level. Unlike ECAFE and ECE, it has

^a The United Nations Scientific Conference on the Conservation and Utilization of Resources (UNSCCUR), convened in 1949, was one such conference which included energy resources as one of its major topics. An international conference on new sources of energy, provided for in resolution 653 III (XXIV) would be another example, while the two international conferences on the peaceful uses of atomic energy held at Geneva in 1955 and 1958, though authorized by General Assembly resolutions, fall in a similar category.

^b In the context of this programme and pursuant to further resolutions of the Council, a number of studies of international scope have been undertaken, such as the ones on atomic energy and on other new sources of energy pursuant to resolutions 597 B (XXI) and 598 (XXI), respectively.

^c By lignite experts—to Australia (1953); geologists and mining engineers—to Europe (1955) and North America (1959); electric power experts—to Europe and North America (1956); water resource experts—to Europe and North America (1958).

not established a large number of subsidiary bodies to deal with various technical problems in the energy field. An exception is the Central American Electric Power Development Sub-Committee, the establishment of which was recommended by a meeting of electric power officials recently held under the auspices of the Central American Economic Co-operation Committee. By and large, the Commission has entrusted the execution of various projects mainly to the secretariat. The unit handling this work is the Energy and Water Resource Development Group, which is assisted by consultants and technical assistance experts as appropriate. The Group has recently been preoccupied with water resource problems but the work programme for 1959-1960 includes a special meeting on the mining industry and, provisionally, a meeting of experts on energy development.

14. The Economic Commission for Africa (ECA), which held its first meeting in January 1959, is now in the process of establishing its work programme in which, of course, energy problems will play an important part. As in other under-developed regions, new paths will have to be broken, and difficulties — such as lack of local experts and of regional energy organizations — will have to be surmounted.

ANNEX B

INTERNATIONAL ATOMIC ENERGY AGENCY AND SPECIALIZED AGENCIES ^a

1. The IAEA is the only organization in the United Nations family whose specific interest is in one sphere of the energy resource field; nevertheless, some of the aspects of atomic energy for which it is responsible fall outside the subject matter of this report.^b The problems pursued by the IAEA of most immediate interest from an energy point of view are those connected with the development of atomic energy for heat and power applications and related aspects. The Agency is concerned, *inter alia*, with the promotion of nuclear power and with various energy and related problems connected with atomic energy. It is developing special competence, for example, in the scientific and technical aspects of reactor development and choice of reactors, and is to advance atomic energy through studies, conferences, technical assistance and other means.

2. Pursuant to recommendations made by the IAEA General Conference, a work programme for the 1959-1960 period has been drawn up in regard to the development of small and medium power reactors to meet the needs of the less-developed countries. The programme includes the following subjects relevant here: (a) studies on the technical feasibility of available reactors; (b) economic studies of available reactors; (c) the selection of interesting situations in less-developed countries; and (d) studies on the application of the selected situations. It is envisaged further to hold a conference in 1960 on the subject of small and medium power reactors.

3. Some of the specialized agencies are directly involved in certain aspects of energy resource development but, in most cases, their interest is only incidental.

4. The Food and Agricultural Organization of the United Nations is interested in the consumption or availability of energy for irrigation pumping and other farm uses rather than for energy resource development as such. Also, from time to time, FAO has occasion to co-operate with the regional commissions on related questions, for example aspects of rural electrification such as the utilization of wood poles. FAO is interested too in the fuel uses of agricultural wastes and forest resources, including protection against indiscriminate use of vegetation. Another question coming within FAO's sphere is that of agricultural interests in the allocation and multi-purpose development of water resources.

^a This annex is based largely on information provided by the specialized agencies consulted by the Secretary-General in accordance with Council resolution 653 I (XXIV).

^b The United Nations and several specialized agencies share an interest with the IAEA in many aspects of atomic energy. Co-ordination in the field of atomic energy as a whole will be the subject of a separate report to the Council at its twenty-eighth session.

5. The International Bank for Reconstruction and Development regularly undertakes general economic surveys and also investigates particular projects at the request of Governments in connexion with the granting of loans. Energy resource development necessarily plays an important role in these operations because it is basic to general economic development and because, where public utilities development is to take place, support by the Bank may be merited. To date, general surveys have been made in more than a dozen countries, and the number of projects which have been investigated is large. The loans the Bank has made in respect of energy resources development have been mainly for the construction of thermal and hydroelectric power plants and related facilities, as well as for multi-purpose projects (including power development). Since the end of 1958, loans for electric power development alone have amounted to \$1,300 million, recipient countries numbering about twenty. It should be noted that in a sense the investigations and surveys of the Bank constitute a form of technical assistance, for they include advice on many aspects of individual projects and on the general direction of economic development.

6. The International Labour Organisation is interested in the labour welfare implications of developments in the energy resources field. It deals specifically with problems of health and safety, manpower and employment, vocational training and productivity. Labour, health, and safety problems require special attention in certain activities such as coal mining and atomic energy production. The work of the ILO in this connexion takes the form of studies, manuals, codes, etc. The organization includes a Coal Mines Committee and a Petroleum Committee.

7. The United Nations Educational, Scientific and Cultural Organization is directly concerned with the scientific aspects of energy production, storage and transport in connexion with its Major Project on Arid Zone Research. Under this programme, UNESCO convened a symposium on solar and wind energy at New Delhi in 1954 and has co-operated with other international organizations in the study of solar energy. UNESCO has also prepared a number of (unpublished) reports on the status of research in solar and wind energy. UNESCO's interest in the scientific research aspects of the energy resource field is also expressed through its regular programmes on scientific co-operation, financial assistance to international non-governmental scientific organizations, exchange of scientists and educational activities. In addition, UNESCO has collaborated closely with the United Nations in work on new sources of energy, particularly in connexion with the two reports which have been prepared for the Council on this subject to date. Lastly, UNESCO has rendered technical assistance in wind and solar energy to a few countries requesting such aid.

8. The World Health Organization is interested in a number of problems related to energy development. These concern health hazards arising from various phases of power production and fuel utilization. WHO activities in this sphere have included conferences or seminars on the health aspects of air and water pollution, participation in study groups and advisory teams, and the offering of advice to national health organizations faced with some of these problems. Also, WHO has arranged a number of international courses on radiation protection and has awarded a number of fellowships for individual training in this subject.

9. The World Meteorological Organization is also engaged in work having a bearing on energy problems. It is interested, for example, in research on meteorological elements as sources of power, in the meteorological aspects of atomic energy and in hydrologic questions which are closely related to the utilization of hydroelectric power. A technical note on energy from the wind was prepared in 1954 (88)^c and more recently another one on the meteorological aspects of the siting and operation of atomic reactor plants. WMO also collaborated with ECAFE in the preparation of a report on the major deficiencies in hydrologic data for countries of the ECAFE region (89) and provided a WMO expert to work with an ECLA group surveying water resources development in Latin America. The extension

^c Numbers within parentheses refer to the bibliographical notes at the end of this document.

of WMO responsibilities to the field of hydrology will bring WMO into closer connexion with the energy problems associated with water power.

ANNEX C

OTHER INTERNATIONAL ORGANIZATIONS ACTIVE IN THE ENERGY FIELD

1. Outside the United Nations family there are several international organizations, inter-governmental and non-governmental, that are active in the energy field. In addition, many national organizations operate in this field. The review which follows does not include the latter, which fall outside the scope of this report. It may, however, be mentioned that many of the national organizations co-operate with international endeavours, either through the United Nations and its subsidiary bodies or through other international organizations.

2. Among the inter-governmental organizations in question are the Organization for European Economic Co-operation (OEEC), the European Coal and Steel Community, the European Atomic Energy Community (EURATOM) and the European Nuclear Energy Agency (ENEA). There are also the joint commissions on certain international rivers whose present or future activities may include work on hydro-power. In addition, there is the Commission for Technical Co-operation in Africa South of the Sahara (CCTA), the Council for Technical Co-operation in South and South-East Asia (Colombo Plan), the League of Arab States, the Organization of American States, and other such organizations.

3. Among the non-governmental organizations are the World Power Conference, which holds a prominent place, the International Geological Congress, one of the oldest organizations in the field, and organizations such as the World Petroleum Congress, the International Gas Union and the Association for Applied Solar Energy. In addition, there are organizations specifically interested in aspects of hydro-power development, such as the International Commission on Large Dams (an affiliate of the World Power Conference). Lastly, there are the organizations interested in one or more aspects of the electricity field. These include the International Conference on Large Electric Systems (CIGRE), the International Electrotechnical Commission (an autonomous affiliate of the International Organization for Standardization), the International Federation of Industrial Producers of Electricity for own Consumption (FIPACE), the International Liaison Conference of Producers of Electric Power (CILPE, composed of FIPACE and UNIPEDE), the International Union of Producers and Distributors of Electric Power (UNIPEDE) and the Union for Co-ordinating Production and Distribution of Electric Power (UCPTE).

4. Brief statements on selected inter-governmental and non-governmental organizations (twenty-one in all) are given below. These include information on the purposes, activities and publications of the respective organizations, prepared on the basis of published and other material available to the Secretariat.

Inter-governmental organizations

European Atomic Energy Community (EURATOM)

5. The Community was established in 1957 by six European countries (Belgium, France, the Federal Republic of Germany, Italy, Luxembourg and the Netherlands). The purposes are: to develop research and to ensure the dissemination of technical knowledge in the field of atomic energy; to ensure the protection of the health of workers and the public; to facilitate the establishment of atomic energy enterprises within the Community; to ensure regular and equitable supply of nuclear materials; to guarantee, by appropriate measures of control, that nuclear materials are not diverted for purposes other than those for which they are intended; to ensure extensive markets and access to the best technical means; and to take other measures promoting progress of the peaceful uses of nuclear energy.

6. The Community intends to develop research in such fields as mining and processing of radioactive materials, applied physics, physical chemistry, application of radioisotopes, economic aspects of energy production, etc.

European Coal and Steel Community

7. The Community was founded in 1952 to create a common market for coal and steel and to stimulate economic expansion in the member countries (Belgium, France, the Federal Republic of Germany, Italy, Luxembourg and the Netherlands). Research in the field of energy is carried on by the Community itself and through specialized organizations. Both technical and non-technical problems are studied. Technical problems which have been dealt with are chiefly those related to coke manufacturing, coal utilization and mining techniques. Non-technical problems which have been studied cover a great number of aspects of the coal industry in the Community, notably changes in the common market, coal production, demand for coal, trade and marketing, prices, investment, labour and working conditions, health problems and terminology. These have resulted in the publication of a large number of reports.

European Nuclear Energy Agency (ENEA)

8. On 1 February 1958 the OEEC established the European Nuclear Energy Agency, which reports to and is under the authority of the Council of the OEEC. The purpose of the ENEA is to promote co-operation between member countries in developing nuclear energy for peaceful purposes. The work of the ENEA is carried out mainly through technical commissions and working parties. The ENEA also initiates, but does not retain management of, such projects as Eurachem (European Company for the Chemical Processing of Irradiated Fuels), and the Halden Reactor research programme. Under study at present are the construction of a high-temperature gas-cooled reactor and a related research programme, and the utilization of geothermic energy resources in Iceland for the production of heavy water.

Organization for European Economic Co-operation (OEEC)

9. The Organization was established in 1948 to co-ordinate the economic and financial measures of the western European countries which are its members (seventeen at present), to improve their economic situation and to solve their common economic and financial problems. Research activities in the field of energy are mainly the responsibility of a number of committees and working groups collaborating with professional organizations. Problems which have been studied cover a great number of technical, economic and other aspects of the major sources of energy, including coal, oil, electricity and nuclear energy, as well as all forms of energy as a whole.

10. Studies have been published on such questions as: demand and supply of coal, oil, and electricity; coal gasification; oil refining expansion projects; finance of electricity industry; interconnexion of electricity networks; international exchange of electric power; fuel efficiency; development of nuclear energy in OEEC countries; hydro-electric power potentialities; general European energy problems; etc.

Commission for Technical Co-operation in Africa South of the Sahara (CCTA)

11. The CCTA was founded in January 1950 to promote regional and interterritorial co-operation in Africa South of the Sahara in technical and scientific fields. Members include Belgium, the Federation of Rhodesia and Nyasaland, France, Ghana, Portugal, the Union of South Africa and the United Kingdom. In November 1950, the Scientific Council for Africa South of the Sahara (CSA) was established for the purpose of providing scientific advice to the CCTA and furthering the application of science to the solution of African problems. The CCTA and CSA have undertaken a considerable amount of valuable research and have effected standardization of methods. Work is or has been carried out through a number of committees and meetings of experts on various subjects, including geology, water resources, cartography, statistics, etc.

Council for Technical Co-operation in South and South-East Asia (Colombo Plan)

12. The Colombo Plan was established in 1950 for the purpose of promoting the economic development of South and South-East Asia through the provision of assistance in planning and development in the various economic sectors, including fuel and power. The members are a number of countries in South and South-East Asia, Europe and America. Activities consist chiefly of programming and implementing social and economic development projects. Studies in the field of energy are undertaken, where necessary, in connexion with development programmes.

League of Arab States

13. The Arab League was formed in 1945, for the purpose of securing close co-operation of the Arab States, *inter alia*, in economic and financial affairs. The membership now consists of ten independent States in the Middle East and North Africa. Relevant activities include the establishment, in 1956, of a Petroleum Office in the League secretariat to co-ordinate the petroleum policies of the Arab petroleum-producing and transit countries and to prepare studies as appropriate. In May 1957, the League Economic Council agreed to work out a unified oil policy which is to include the establishment of an Arab tanker fleet, construction of oil refineries to meet local needs and adoption of unified principles to be followed by all Arab countries in granting future concessions for petroleum exploration and exploitation. The provisions of this agreement are, *inter alia*, to be discussed further at an Arab oil conference, scheduled to be convened by the League in April 1959.

Organization of American States (OAS)

14. Founded in 1890 for the purpose of collecting and distributing information on commerce and industry, the OAS later became a political organization dedicated to promoting co-operation among American States in the political, economic and other fields. The OAS organizes international conferences of American States and meetings on special problems, such as the seminar on rural electrification co-operatives convened in 1957. The permanent executive and administrative body of the OAS is the Council, which is assisted by three subordinate organs including the Inter-American Economic and Social Council. The latter has been in continuous session in Washington, D.C., since 1945. A great number of publications are put out by the OAS, including *Americas* (monthly), *Annals of the Organization of American States* (quarterly), *Estadistica* (quarterly), *Inter-American Juridical Yearbook*.

Non-governmental organizations

World Power Conference (WPC)

15. The WPC was founded in 1924 to form a link among different branches of power and fuel technology, among experts of different countries throughout the world and among engineers and fuel technologists, on the one hand, and to promote contacts among administrators, scientists and economists, on the other. Five plenary conferences of the WPC have been held. The sixth will take place in Australia in 1962. In addition, sectional conferences on specific subjects are held from time to time. Besides bringing together the various above-mentioned groups, these conferences facilitate consultations between the consumers of fuel and power and the manufacturers of the instruments of power production. They result in the publication of extensive studies on various technical, economic and other power problems throughout the world. These are published in the *Transactions* of the plenary and sectional conferences. The WPC also publishes a statistical yearbook and an annual report.

International Conferences on Large Electric Systems (CIGRE)

16. The CIGRE was established in 1921 under the auspices of the International Electrotechnical Commission. Its purposes are to facilitate studies on technical problems relating to the generation and distribution of electric energy, and to advance techniques in construction and operation of large high-tension networks. The CIGRE has an extensive membership in a great number of countries. A general conference of electricians is held every two years. In

addition, a number of permanent international study committees conduct research principally on technical problems. Its publications include a review called *Electra* and congress proceedings and documents.

International Electrotechnical Commission (IEC)

17. The IEC was established in 1906 to facilitate the co-ordination and unification of national electrotechnical standards and to co-ordinate the activities of other international bodies in the field. Membership is open to any country wishing to participate in the work of the Commission; there are some thirty members (national committees) from countries throughout the world. The Commission issues international recommendations expressing as nearly as possible an international consensus of opinion on the subjects dealt with. Research is conducted by operating technical committees and relates to nearly every branch of electrical technology—nomenclature, graphical symbols, hydraulic turbines, electrical and magnetic magnitudes and units, etc.

International Federation of Industrial Producers of Electricity for own Consumption (FIPACE)

18. The Federation was established in 1954 to promote the common interests of private industrial undertakings which produce, partially or wholly, the electric power consumed in their factories. Membership consists of seven groups from western European countries. Studies are made on technical, economic, legal and other problems encountered by members in connexion with the production, transmission, distribution and use of electric power. This is done through study committees. The Federation has published such studies as *Etude sur les régimes légaux de l'autoproduction industrielle d'énergie électrique dans les pays de la FIPACE* and *Statistiques afférentes à l'autoproduction industrielle d'énergie électrique*.

International Liaison Conference of Producers of Electric Power (CILPE)

19. The CILPE was founded in 1952 to study problems connected with the production, transmission and exchange of electric power and other problems of common interest to producers of electric power for public distribution and to undertakings which consume, totally or partially, the electric power they produce. The members are UNIPEDE and FIPACE. Important problems, usually of a technical nature, selected by the Managing Board of CILPE, are studied by one or the other of the two organizations or by *ad hoc* working parties. An annual report is published by CILPE.

International Union of Producers and Distributors of Electric Power (UNIPEDE)

20. The UNIPEDE was founded in 1925 to study all questions relating to the production, transmission and distribution of electric power. Active members are comprised by national professional groups from fifteen western European countries and French overseas territories. Congresses of electric power engineers are held regularly. UNIPEDE's activities are carried on by a managing board, study committees and working parties. Separate committees are or have been studying thermal production, hydro production, international interconnexions, distribution, rate-fixing, optimum use of electric power, statistics and protection of telecommunications, respectively. UNIPEDE has an information service and furnishes its members with documentation on the technical, economic and statistical aspects of the production and distribution of electric power. In addition to its congress proceedings, UNIPEDE publishes the *Periodic Circular* (quarterly) and a statistical yearbook. It also issued several editions of maps on European power lines.

Union for Co-ordinating Production and Distribution of Electric Power (UCPTE)

21. The UCPTE was established in 1951 to promote the co-ordination and better utilization of existing and future electric power production and transmission facilities in the interconnected member countries (in western Europe). The UCPTE Assembly, which is responsible for its activities, meets twice or three times a year. The UCPTE is concerned with problems of a technical nature and its principal

activity is short-term co-ordination of electric power exchanges. Monthly and quarterly bulletins are published on the resources and requirements of each interconnected country.

International Commission on Large Dams of the World Power Conference (CIGB)

22. The CIGB was founded in 1928 to encourage improvements in the design, construction, maintenance and operation of large dams by bringing together information on this subject and studying related questions. Membership consists of National Committees from countries throughout the world. The CIGB organizes international congresses at which problems relating to the construction of large dams are discussed. The Sixth Congress was held in New York in September 1958. Publications include reports of congresses, a periodic bulletin, and a multi-lingual international technical dictionary.

International Gas Union (IGU)

23. The IGU was created in 1931 to promote progress in gas production and utilization. An international congress is held every three years. Work is also done by several study committees and two international committees—on standardization of the fundamental tests for the approval of gas appliances and on development of gas utilization, respectively. In addition, there is a dictionary panel. Publications include the congress proceedings and a multi-lingual gas industry vocabulary.

World Petroleum Congress

24. The Congress was founded in 1933 to bring together representatives of scientific, technical and other organizations concerned with the petroleum field. Four world petroleum congresses have been held at which papers were presented and discussions conducted on a great number of technical problems, as well as on economic and other aspects of petroleum production, processing, transport, storage and utilization. The fifth congress will be held in New York in May-June 1959. The published congress proceedings include extensive studies on geology, geophysics, oil mining and processing, oil equipment and materials, transport, storage and distribution, utilization of oil and oil products, and other problems related to the petroleum industry.

Association for Applied Solar Energy

25. The Association was formed in 1954 to hasten the utilization of solar energy, to encourage further scientific and engineering work and to serve as a means of disseminating information on developments in the field of applied solar energy. Work is carried out through collaboration among members of the Association and by convening international conferences or symposia. The three such conferences held to date have resulted in the presentation of a great number of studies, mostly on technical and scientific aspects of solar energy. Publications include the proceedings of the World Symposium on Applied Solar Energy (the second of the above-mentioned conferences); *Applied Solar Energy*, a directory of world activities in the field; and two quarterlies—*The Sun at Work* and *The Journal of Solar Energy Science and Engineering*.

International Geological Congress

26. The Congress was founded in 1875 to contribute to the advancement of investigations relating to the study of the Earth both from the theoretical and practical points of view. Sessions take place every three years and the proceedings are published. Between sessions, work is carried on by international commissions—on lexicon of stratigraphy, crust of the Earth, geological map of Europe, geological map of the world, distribution of the Gondwana (Karoo) system, international geological map of Africa, African surveys, world physiographic province map, meteorites, determination of geological age by radiological methods, etc.

International Organization for Standardization (ISO)

27. The purposes of the ISO are to promote the development of standards in the world with a view to facilitating international exchange of goods and services and to develop mutual co-operation in the sphere of intellectual, scientific, technological and economic activity. Membership is in the

form of bodies—governmental, non-governmental and private—from some thirty countries. The ISO works through numerous technical committees in which any member body may participate. The affiliated International Electrotechnical Commission (IEC), while retaining its full autonomy, acts as the Electrical Division of the ISO. A quarterly *Journal* is published.

ANNEX D^a

INTEGRATED STUDY OF FUEL AND POWER RESOURCES AND DEMANDS OF COUNTRIES OF THE ECAFE REGION

Part I. Introduction

The role of fuel and power resources in economic development

Types of fuel and power resources to be included in the study

Conventional sources:

- Solid fuels (coal and lignite, and products derived therefrom)
- Liquid fuels
- Natural gas
- Water power resources.

Non-conventional sources:

- Peat
- Fuel-wood
- Wood and agricultural wastes
- Dung

Other sources of energy:

- Nuclear energy
- Wind power
- Solar energy

Part II. Post-war development of fuel and power resources in the ECAFE region

Production (including peak production before the war, post-war production, exports and imports, and cost of production)

Development and utilization of solid fuels:

- Development of new reserves
- Development of lignite and other low-grade coals
- Coal washing, blending and carbonization

Development of petroleum resources and expansion of oil-refinery capacity

Expansion of natural gas industry

Hydro-power development

Plans for the development of nuclear energy resources, wind power and solar energy

Interrelationship between the utilization and development of various types of fuel and power resources

Government policies in regard to fuel and power developments (conservation measures, price policies, etc.)

Transportation in relation to fuel and power developments

Part III. Assessment of fuel and power needs

Techniques used in assessing fuel and power demands

In countries outside the region (Europe, USA, USSR and South America)

In countries of the region (China, India, Japan, Pakistan, etc.)

Trends of past consumption in the region

Fuel and power demands in relation to population growth

Fuel and power consumption in relation to per capita income

Assessment of requirements of fuel and power of countries of the region under:

- Industry and mining
- Electricity
- Domestic sector

^a This annex reproduces an outline prepared by the ECAFE secretariat and submitted to the ECAFE Committee on Industry and Natural Resources in document E/CN.11/I & NR/L.6, 23 January 1959.

Transport
Agricultural requirements
Miscellaneous

(Consideration should be given to (a) changes in the efficiency of energy used and (b) changes in the relative importance of different fuels in supplying the demand for energy, as a result of such things as shifts in consumer preference and technological changes in fuel-using equipment.)

- Aspects, other than statistical, of estimating
 - Prices of fuel or power
 - Capital availability
 - Transport considerations
 - The economic climate and government policy
- Demands for fuel and power in 1960, 1965, 1970 and 1975 (balance sheets)

Part IV. Analysis of fuel and power supply

Techniques in the preparation of inventory of resources of fuel and power

- Inventory of reserves (to be prepared every five years)
 - Existing reserves at the beginning of the period
 - Survey work done during the period
 - Re-evaluation of reserves
 - Work planned for the next periods

Estimates of expected production (to be prepared every five years)

- Production at the beginning of the period
- Mines and plants in operation
- Mines and plants closed
- Production increases (and reasons for such increases)
- Production decreases (and reasons for such decreases)
- Mines and plants being constructed
- Production expected for the next periods

Possible impacts of technological changes

- Improvement in the searching techniques
- Production and transportation
- Development of new sources
- Development of alternatives sources (comparison of advantages and disadvantages of various sources of fuel and power)

Improvements in techniques of utilizing fuels

- Cost and price considerations
- Government policies
- Effects of international relationship
- Questions on Trade

Part V. Conclusions

Comparison of the demand with the supply

Suggestions for the development of new resources, the use of alternate sources, and modification in the general economic development plans.

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Document E/3212/Add.1

Financial implications of suggestions made by the Secretary-General in document E/3212

Note by the Secretary-General

[Original text : English]
[1 April 1959]

1. In paragraphs 133 to 138 of the report on energy development (E/3212), certain suggestions are made regarding future action on problems of global interest. Should the Council take a favourable decision on these suggestions, there will be additional costs arising in respect of the following :

(a) Development of methods of energy resources appraisal, with the help of a panel of experts and the co-operation of international organizations such as the World Power Conference ;

(b) Analysis of long-term costs and prices of fuel and power ;

(c) Convening of seminars on economic aspects of energy development.

2. In regard to (a), assuming that the panel comprises seven experts and that they would need to hold a preliminary meeting of about a week's duration in the summer of 1960 and a subsequent meeting early in 1961 of approximately two weeks' duration, the costs could be estimated at :

	1960 \$	1961 \$
Transportation to New York (using an average figure of \$1,000 for round trip travel)	7,000	7,000
Daily subsistence for attendance at meetings (at \$25 per day)	1,225	2,975
TOTAL	8,225	9,975

There would, in addition, be the costs of printing the report of the panel of experts. On the assumption that the report would not exceed 100 mimeographed English pages of text, and that the publication would be issued in the three languages, these costs would be of the order of \$5,000. The cost of translating and typing the report, if separately calculated, would be about \$1,500.

3. In regard to the analysis of long-term costs and prices, it is hoped that it would be possible to obtain the co-operation of certain specialized non-governmental international organizations. However, it is foreseen that it may well be necessary to seek the assistance of an expert consultant for a period of some six months in 1960 to complete the final analysis. The fees to this expert consultant and related travel costs are estimated at \$7,000.

4. In respect of seminars, present plans of the Secretariat include the convening of a seminar on the economics of electrification in the autumn of 1960, possibly at Headquarters. The preparatory work for this seminar, including the documentation, will be done within the existing resources of the Secretariat, supplemented, where necessary, from technical assistance sources.

5. The Secretary-General would propose to take account of the additional requirements for 1960 when he submits revisions of his initial budget estimates for 1960 to the General Assembly at its fourteenth session. In respect of 1961, the appropriate amounts would be included in the regular budget estimates for that year.

DOCUMENTS E/3213 AND ADD.1 AND 2

Report of the Advisory Committee on the Work Programme on Industrialization

Document E/3213

[Original text : English]
[28 February 1959]

Letter dated 28 February 1959 addressed to the President of the Economic and Social Council by the Secretary-General

I have the honour to submit herewith, for discussion by the Economic and Social Council at its twenty-seventh session, the report prepared by the Advisory Committee on the Work Programme on Industrialization, established in accordance with Council resolution 674 A (XXV). This report presents recommendations agreed upon by the Committee on the development and implementation of the programme of work on industrialization of the United Nations Secretariat.

I wish to commend this highly useful and constructive report to the attention of the Council, in its discussion of item 5 of the agenda. It is my feeling that the Advisory Committee has provided extremely valuable guidance to the Secretariat for its work on the industrialization of the less developed countries. In view of this, the Council might wish to consider the opportunity of authorizing me to convene such an advisory committee, preferably composed of the same persons, sometime in 1960, for the purpose of providing further guidance to the Secretariat.

REPORT OF THE ADVISORY COMMITTEE ON THE WORK PROGRAMME ON INDUSTRIALIZATION
TO THE SECRETARY-GENERAL

LETTER OF TRANSMITTAL

14 February 1959

Sir,

We have the honour to submit herewith the report on the work programme on industrialization of the United Nations Secretariat which, in pursuance of resolution 674 A (XXV) of the Economic and Social Council, we were invited to prepare. The Committee noted that the debates in the General Assembly and the Council had been concerned principally with economic aspects of industrialization and the question of substantive servicing of technical assistance operations in the field of industry, and decided, in view of the limited time at its disposal — from 4 to 14 February 1959 — to focus its discussion on the activities under the programme which bear directly on these matters.

We are happy to be able to present to you a report which reviews the present work in industry carried out by the Secretariat of the United Nations and presents

agreed upon recommendations for the further development of the programme of work. We hope that by providing some guidance to the Secretariat in developing and implementing its work programme, we shall contribute to strengthening the efforts of the United Nations in promoting the growth of industry and economic development in general in the less developed countries.

We wish to express gratitude for the co-operation and assistance rendered to us by members of the United Nations Secretariat.

We have the honour to be, Sir,

Your obedient servants,

B. N. ADARKAR

Koichi AKI

Czeslaw BOBROWSKI

Charles Sylvester BOOTH

Vojin GUZINA

Stacy MAY

Alessandro MOLINARI

Gonzalo ROBLES

Jan TINBERGEN

Evgeny Pavlovich UNKSOV

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INTRODUCTION

1. The Advisory Committee on the Work Programme on Industrialization, established under resolution 674 A (XXV) of the Economic and Social Council, met at United Nations Headquarters in New York from 4 to 14 February 1959. Its members, appointed in consultation with Governments, were Mr. B. N. Adarkar (India), Minister, Embassy of India, Washington, D.C.; Mr. Koichi Aki (Japan), President, The Association for International Technical Co-operation; Professor Czeslaw Bobrowski (Poland), Vice Chairman, Economic Council; Mr. Charles Sylvester Booth (Australia), Chairman of the Board of Directors, The Australian Paper Manufacturers, Limited; Mr. Vojin Guzina (Yugoslavia), Director, Institute of Planning; Mr. Stacy May (United States of America), Board Member, International Basic Economy Corporation; Professor Alessandro Molinari (Italy), Director-General, Associazione per lo Sviluppo dell'Industria nel Mezzogiorno (SVIMEZ); Ingegniero Gonzalo Robles (Mexico), Economic Adviser, Banco de México; Professor Jan Tinbergen (Netherlands), Director, Netherlands Economic Institute; and Professor Evgeny Pavlovich Unksov (USSR), Director, Central Scientific Research Institute of Technology and Machine-building. At its first meeting, the Committee invited Mr. Philippe de Seynes, Under-Secretary for Economic and Social Affairs, to act as chairman.

2. The Committee had before it the relevant resolutions of the Economic and Social Council (resolutions 597 A (XXI), 618 (XXII), 649 A (XXIII) and 674 A (XXV)) and of the General Assembly (resolutions 1033 B (XI)), the reports by the Secretary-General to the Council on the question of industrialization (E/2816,¹ E/2832,¹ E/2895,² E/2958,³ E/3078⁴ and E/3079⁴), and the studies on industrialization already published by the Secretariat under its programme of work — namely, the first issue of the *Bulletin on Industrialization and Productivity*⁵ and the publication entitled *Management of Industrial Enterprises in Under-developed Countries*.⁶ It also had before it the studies and reports recently completed by the Secretariat⁷ and a certain number of working papers prepared for the Committee by the Secretariat. The Committee also had at its disposal documents on relevant work in the financial, social and demographic fields, on technical assistance operations in industry, including both expert advice and provision of fellowships, on the

¹ *Official Records of the Economic and Social Council, Twenty-first Session, Annexes, agenda item 5.*

² *Ibid.*, *Twenty-second Session, Annexes, agenda item 4.*

³ *Ibid.*, *Twenty-third Session, Annexes, agenda item 5.*

⁴ *Ibid.*, *Twenty-fifth Session, Annexes, agenda item 5.*

⁵ United Nations publication, Sales No.: 58.II.B.2.

⁶ United Nations publication, Sales No.: 58.II.B.5.

⁷ To be published in forthcoming issues of the *Bulletin on Industrialization and Productivity*.

activities in the field of industry of the regional economic commissions, on the proposed activities of the newly established Special Fund and other relevant United Nations documentation. The Committee adopted the working papers submitted by the Secretariat as a basis for its discussions.

3. One of these papers discussed the terms of reference of the Committee and the scope of the proposed review and recommendations; the criteria of selection of projects and the progress of implementation under the existing programme; certain factors bearing on the orientation of the programme of work; and the Secretariat's views on the further development of the programme and its implementation. Other papers contained detailed descriptions of proposed research projects, and of the activities of the Secretariat under the programme relating to support of the operations of technical assistance and the Special Fund.

4. The Committee heard statements by Secretariat officials on activities of the Secretariat relating to industrialization in the financial, social and demographic fields, on technical assistance operations and on those of the Special Fund; the Committee was also informed by the Economic Adviser of the International Labour Organisation (ILO) of the activities of that organization relating to industrialization and productivity.

5. The conclusions and recommendations contained in the present report are put forward largely in the order followed in the agenda adopted by the Committee. A brief review of the present work programme is followed by conclusions and recommendations on its further development, with reference to general orientation, continuing activities relating to the United Nations technical assistance programmes and the operations of the Special Fund in the area of industrial development, and research projects. The report concludes with recommendations concerning the implementation of the programme.

I. TERMS OF REFERENCE

6. Paragraph 12 of Council resolution 674 A (XXV) and the discussion in the Council which led to the adoption of this resolution⁸ indicate that the main task of the Advisory Committee is to make recommendations to the Secretary-General on the further development of the programme and its implementation, the review of the present programme being considered essentially as a means towards that end. The recommendations concern only the work of the Secretariat at Headquarters. They are made against the background of work on industrialization carried out by the secretariats of the regional economic commissions and by certain specialized agencies. The Committee noted, in particular, that the activities of the secretariats of the regional economic commissions stem either from resolutions adopted by the commissions or from requests of the Economic and Social Council to the commissions; the latter enjoy, by delegation from the General Assembly and the Council, considerable latitude in the formulation of their programmes of work.

7. The Committee also noted that the debates in the General Assembly and the Council had been concerned principally with economic aspects of industrialization and the question of substantive servicing of technical assistance operations in the field of industry, and decided—in view of the limited time at its disposal—to focus its discussion on the activities under the programmes which bear directly on these matters.

⁸ See *Official Records of the Economic and Social Council, Twenty-fifth Session, 1020th meeting.*

II. REVIEW OF THE PRESENT PROGRAMME OF WORK

8. The Committee reviewed the work on industrialization of the Secretariat at Headquarters and also took into account the relevant work carried out by the secretariats of the regional commissions.

9. The Committee noted that the activities mentioned in paragraph 7 above carried out by the unit of the Secretariat directly in charge of work in industry were of two kinds—namely, research activities and substantive servicing of technical assistance operations in industry; the first were largely based upon and designed to support technical assistance operations by accumulating a fund of knowledge in the various fields in which assistance is provided. A substantial part of the research carried out consisted in analysing and evaluating the experience accumulated in the field operations in the following areas: capital intensity, planning, management, and problems of small-scale industries. As regards substantive servicing, the Committee noted that, because, of the lack of adequate resources, substantive support has been so far of a limited scope; however, a serious effort has been made in the past few years to strengthen such support.

10. The Committee considered that the research which has so far been carried out has been of interest for the less developed countries, both in content and orientation. It noted that a number of studies had been carried out by the Secretariat on micro-economic aspects of industry. This was the case of some of the studies on capital intensity⁹ and of that on size of plant.¹⁰ The Committee also noted the project on management of industrial enterprises, largely based on technical assistance experience, which had been carried out in co-operation with the International Labour Organisation (ILO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Finance Corporation (IFC); this project was considered of particular importance in view of the fact that the scarcity of managerial skills prevailing in most under-developed countries was one of the major obstacles to industrial development. The Committee took note of the Secretariat's report on this topic (E/3143) and of the studies¹¹ on various aspects of this subject by members of the panel of experts in management convened by the Secretariat in October 1957. As regards projects relating to small-scale industries, the Committee noted the study¹² of a hire-purchase loan scheme to facilitate the mechanization of small industry in Burma, prepared by a technical assistance expert at the request of the Secretariat.

11. The Committee noted the information on other activities relating to industrialization carried out by the Secretariat, which was contained in the documentation submitted to it. One of these papers described the work on the financing of economic development, with special reference to the financing of industrialization. This work included studies of methods of industrial financing, with special reference to the nature and sources of such financing, both domestic and foreign; studies on the international flow of private capital, with special attention to conditions prevailing in the manufacturing industry, which is the field of prime concern to most under-developed countries endeavouring to attract foreign

⁹ One study on this subject appeared in the first issue of the *Bulletin on Industrialization and Productivity* and another is to appear in the third issue of the *Bulletin*.

¹⁰ See the second issue of the *Bulletin on Industrialization and Productivity* (United Nations publication, Sales No.: 59.II.B.1).

¹¹ Published in the first and second issues of the *Bulletin*.

¹² Published in the first issue of the *Bulletin*.

capital; studies on fiscal incentives to investment, and on financial institutions and mechanisms; and the substantive servicing activities in connexion with technical assistance operations in the relevant fields.

12. The Committee noted the work carried out by the Bureau of Social Affairs in the social and demographic field, which concerned such problems as urbanization in under-developed areas, with special reference to the relationship between the industrialization and urbanization processes and the related problems of internal migration; to the relationship of community development to industrialization and economic development; and to the environmental and regional planning aspects of industrialization.

13. The Committee had before it a memorandum by the Secretariat on the development of the programme of work of the Bureau of Social Affairs in the social and demographic field. Work in this field related to such topics as population trends in relation to employment, savings and investment — a study which would be carried out at a regional level, in co-operation with the secretariat of the Economic Commission for Asia and the Far East (ECAFE); the middle class in relation to demand, savings and entrepreneurial activity, which would be studied jointly with the secretariat of the Economic Commission for Latin America (ECLA) with reference to certain Central American countries; rural-urban movements of population as a factor in industrialization policies; and housing, building and planning, including problems of location and planning of industrial estates. The Committee noted that the activities of the Bureau of Social Affairs in the field under consideration primarily originate in the work programmes recommended by the Social Commission and the Population Commission of the Economic and Social Council.

14. The Committee had before it a paper prepared by the Secretariat on the work in industry of the secretariats of the regional economic commissions. The research activities carried out by ECAFE and ECLA had, broadly speaking, developed along two main lines: studies in planning and programming of industrial development which were generally carried out within the framework of the studies on general economic development of the respective areas, and studies of specific industries of interest to the regions; in the latter, particular attention was given to problems of the iron and steel, engineering, pulp and paper and, in the case of ECAFE, small-scale industries. All these activities were closely related with technical assistance in the respective regions. As regards the Economic Commission for Europe (ECE), much of its work on industry problems was also valuable for under-developed countries. The programme of work of the Economic Commission for Africa (ECA) is still in its initial stage, as this Commission had only recently been established.

III. GENERAL ORIENTATION OF THE PROGRAMME OF WORK

15. The Committee was aware of the fact that the limited resources at the disposal of the Secretariat impose severe restrictions upon the scope of the programme. Devising a programme of work on industrialization under such conditions is a difficult and complex task. A careful choice of the topics and activities has to be made among the vast number of problems facing countries in the process of industrialization. In making this choice and in establishing priorities, account has to be taken, in so far as possible, of the objectives of the less developed countries engaged in a process of

industrialization, particularly of those where it is actively promoted by the Government.

16. The Committee considers that, basically, the programme of work should be developed so as to contribute to promoting rapid industrialization of under-developed countries. Therefore, the work should be of such a nature that Governments of under-developed countries could use the results to meet their practical needs.

17. The Committee was of the opinion that the central position and responsibilities of the United Nations in promoting economic development made it appropriate to entrust the Secretariat with certain tasks which could not be performed as efficiently elsewhere. It endorsed the proposals of the Secretariat to the effect that an even closer relationship than heretofore should be established between projects under the programme and technical assistance activities, both as regards direct substantive servicing of operations in the field and orientation of research. It also considered that the function which the Bureau of Economic Affairs, as regards both servicing and research, may be called upon to perform in connexion with the Special Fund will have to be taken into account.

18. In selecting and formulating the specific research projects, a somewhat artificial separation of the various aspects of industrial development is often unavoidable. It is recognized, however, that such a fragmentation — which may be necessary from a methodological point of view — should not be carried too far. The studies would provide one of the elements on which action by authorities in charge of industrial development could be based. Any such action should be based upon an evaluation of the conclusions of the study, within the context of the wider aspects of the problem of industrialization and economic development in general in the country concerned. The Committee recognized that industrialization is not limited to setting up isolated industrial enterprises, but is a continuing process. This implies a need for integrated measures of wide scope applied with sufficient intensity. Among these measures are those aiming at accelerating and directing the process of capital formation, those resulting in capital-saving on the plant, industry and national levels and those tending to reduce balance of payment difficulties, thereby removing obstacles to the rate of economic growth.

19. In the proposed programme of work, the number of specific projects has been limited so as not to commit the resources of the Secretariat for too long a period of time and thus to preserve some flexibility in the longer run development of the programme. As a whole, the recommended programme derives from the existing one and is based on proposals of the Secretariat as amended and amplified by the Committee. In addition to proposing new projects, the Committee attempted to put some issues into both a broader perspective and a sharper focus.

20. The Committee was of the opinion that the scope of the research work of the Secretariat, which had largely concentrated so far on micro-economic aspects of industry lying between the planning and programming stage and designing of production plant and facilities, should be widened so as to include studies of macro-economic nature.

21. The Committee expects that the Secretariat's future programme of research work will be able to widen the scope of work outlined in this report so as to cover the three types of problems mentioned in paragraph 18 above, as well as other relevant problems. The results of this work are expected by the Committee to be of

great assistance to countries carrying out programmes of industrialization.

22. The Committee considered that industrialization is a basic aspect of economic development and noted with approval the efforts of the Economic and Social Council to promote rapid industrialization. In this connexion, it noted that the programme of work submitted by the Secretariat did not contain any specific projects relating to general development policies and techniques of programming of economic development. It was of the opinion that systematic work in this area would greatly enhance the over-all effectiveness of the research activities in the field of industrialization. Moreover, a considerable number of requests for technical assistance relate to work in this field, so that supporting research of the suggested kind would be of particular value.

IV. DEVELOPMENT OF THE PROGRAMME OF WORK

23. As noted above, the future programme of work will be developed along two lines, namely, research activities and direct substantive servicing of field operations related to industrial development. In view of the fact that an appreciable part of the research activities is closely related to substantive servicing in the field, it appears appropriate, from an organizational standpoint, to discuss the latter activities in the first place.

A. ACTIVITIES RELATING TO SUBSTANTIVE SERVICING OF FIELD OPERATIONS IN INDUSTRY

24. Operations under the United Nations technical assistance programmes in the field of industry include provision of expert advice on planning, programming and promoting industrialization and on establishing, operating and developing individual industries. The United Nations also makes available fellowships and scholarships, organizes training institutes and centres, meetings and seminars of experts, contributes to the establishment of scientific and industrial research institutions and to the organization and operation of demonstration projects and pilot plants, and serves to some extent as a clearing house for the dissemination of exchange of technical information. The Committee noted with interest that, according to the statistics supplied by the Secretariat, there has been an increase in the volume of assistance to industry.

25. The Committee noted that the Special Fund, which has recently been established, will, among its other activities, be called upon to play an important role in the process of industrialization of under-developed countries by facilitating investment both in infrastructure and in industry. Among the functions of the Fund are assistance in the development of natural resources, skills and other industrial prerequisites and in the direct establishment of industries. Among the projects which might be undertaken under its terms of reference are resource surveys, including those related to resources and requirements for industry, establishment of industrial research institutes and servicing centres, preparation of feasibility reports prior to the establishment of industrial enterprises, and establishment of pilot plants.

26. The Committee considered that one of the forms which the increased supporting activities might take is substantive assistance by the Bureau of Economic Affairs at the programming stage.

27. The Committee noted the view of the Secretariat that the effectiveness of an expert assigned to a particular

project could in many cases be considerably enhanced if he is more adequately briefed by the Secretariat in advance in respect of the nature of his mission, including the economic and institutional setting in which his particular assignment is situated and those aspects of the programme of assistance in the country of his assignment which are related to his work; provision of briefing would be a major function of the supporting activities and would be increasingly based upon the fund of information which it is proposed to develop under the programme of work.

28. The Committee also reviewed another phase of technical assistance operations—the fellowship programme. It was noted that the priorities in the establishment of countries' fellowship programmes are basically determined by government views of the countries' needs, and that the Bureau of Economic Affairs might be in a position, on the basis of its studies and other experience, to advise Governments upon the possibilities of orienting the fellowship programmes towards certain areas. It was also noted that there appears to be need for closer links between provision of expert advice and the fellowship programme of the country concerned, and that in many cases the formulation of the fellowship programme is to a large extent complementary to provision of advice.

29. The Committee noted that difficulties occasionally arose in connexion with placement of fellows in research or training institutions and in industrial establishments of developed countries. It recognized that certain problems are encountered that make it desirable for closer links to be established with a number of national and international organizations which are involved in training activities and fellowship programmes. The Committee took note of the fact that the Secretariat had undertaken preliminary consultations with a number of national and international agencies concerning problems of placement. It is proposed that efforts be made to broaden the contacts with these organizations in order to develop an effective programme of co-operation.

30. The Committee also noted that the Bureau of Economic Affairs is expected to assume certain servicing functions in relation to the development of the programme of operations in the field of industry of the newly established Special Fund.

31. The Committee endorsed the views of the Secretariat that it is essential to stimulate and maintain a two-way communication between experts in the field and the Secretariat. Not only does the flow of information to experts increase the effectiveness of the field operations, but the reverse flow of information and experience contributes—either directly or through its use in research projects—to the fund of knowledge accumulated by the Secretariat. It is expected that this procedure will be intensified in the future and it is on the basis of these considerations that some of the projects in the research programme described below have been formulated.

B. RESEARCH PROGRAMME

Micro-economic studies

32. In the above review of the Secretariat's programme of work, the Committee mentioned the interest presented by projects involving a micro-economic type of analysis, relating to several functional aspects of industry. These included a study of capital intensity in earth-moving operations and of problems of size of plant in the nitrogenous fertilizers and glass container industries. Further work in this area is under way, namely, an analysis of

cost of earth-moving operations in connexion with the construction of hydroelectric stations in Europe (in co-operation with the ECE) and the convening of a working party on earth-moving operations in the Far East under the joint auspices of the Bureau of Economic Affairs and ECAFE.

33. Under this approach it is not intended to cover all possible industries, nor is it intended to study the industries in depth; the studies are meant mainly to develop a methodology to be used for the study of similar functional problems in other industries. The results of these studies are primarily destined for use by governmental and other organizations which are called upon to provide advice in problems relating to establishment of industries.

34. In its discussions, the Committee suggested that this approach might usefully be extended to other areas, including design of equipment, particularly the problem of single-purpose *versus* multi-purpose equipment, and the location and complementarity of industries. Certain projects of this type might be undertaken by working parties and might lead to the preparation of manuals. The Committee did not think it practicable to suggest specific projects in this category.

Studies in planning and programming

Project — Forecasting of demand for selected industrial products

35. The industrialization policy of any country should be based, among other things, on some assumptions as to the future levels of demand for the commodities to be produced. Production and investments as well as manpower requirements should be based on such figures. Thus, considerable errors may be made when a number of countries, acting independently of each other, engage in the same industry with resulting over-production in that sector and possible scarcities in other sectors of the national economy. In order that the industrialization process may take place as smoothly as possible, that is, to avoid both shortages and over-capacity, Governments should have information on, among other things: (a) the prospective development of demand for the most important categories of commodities and (b) the prices at which each country is or will in the future be able to produce various types of goods. It goes without saying that the availability of information of this kind provides one element — but an important one — of the problem, and is in itself no guarantee that a balanced development of industry will be achieved; it is a necessary rather than a sufficient condition. It is clear also that information of the type indicated cannot be expected to be very accurate. By its nature it is bound to be imperfect and one can only aim at making it as helpful as possible. However, even in this imperfect form it can play an important role.

36. The present project deals with the demand aspect only. The question of information about prices will require further study before practical steps can be proposed.¹³

37. At present, the planning agencies of a number of countries or the other institutions in charge of formulating industrialization policies are each engaged in estimating trends in demand. This means, on the one hand, that a great deal of duplication takes place and, on the other hand, that not the most reliable estimates are being made, since the information available to each

Government is limited. Such work could much more efficiently be undertaken by the United Nations Secretariat.

38. It is therefore proposed that the Secretariat engage in periodic estimates of future demand for a number of commodities, using macro-economic approaches as well as market research methods.

39. A list of the most important assumptions on which the estimates are based should be supplied and a number of alternative estimates might be offered in tabular form. The ideal procedure would be that the figures be published under the auspices of the United Nations after a first draft had been discussed in a conference of experts from various countries. The responsibility for the estimates should, however, remain with the United Nations in order to guarantee uniformity of approach.

40. The execution of this work, especially of that relating to market research at the national level, would be facilitated by the work done in national centres. For countries where no national estimates are available, the Secretariat might have to make rough estimates. The countries concerned might be assisted in establishing the necessary facilities.

Project — Government goals of economic policy and the private sector

41. This project involves primarily consideration of appropriate policy measures with a view to influencing the volume and direction of capital formation and investment in the private sector. The relevant instruments of policy may be classified as follows: (a) various forms of more or less direct restraints designed to influence capital formation, to prevent investment from being diverted into industries of lower priority and to limit investment within the range of available real resources; (b) measures designed to provide appropriate incentives to the private sector so as to "steer" the investment decisions of that sector in line with the policy objectives of the Government; (c) policies of joint action involving government guidance which would include close consultation between government and the private sector to achieve accepted goals. In many instances these methods are being used in combination.

42. In the proposed study, it is intended to concentrate on measures of the second and third categories. The selection for study of the measures of steering and guidance is governed by the fact that they belong to the sphere of normal government functions in which there is widespread experience.

43. In the analysis of these measures, it may also be necessary to take into account some more general considerations. Two such considerations, which are inter-related, may be specified. The first relates to the broader problem of influencing capital in the private sector, which includes efforts made by Governments to ensure that adequate real resources are made available for the total investment needs of the economy and that, conversely, total public and private investment are adjusted to total resources. The second consideration relates to stimulation of private investment in industry through the provision of infrastructure facilities at various levels (e.g., housing and other social overhead as well as transport and power).

44. The proposed project would explore the nature and effects of a certain number of incentives to investment in industry of the described type, in such fields as credit, taxation, trade and marketing policies, and training and research programmes. Other policies to be studied would include direct subsidies to industries and government procurement policies.

¹³ While estimates of prospective capacity of production are also essential they, too, present considerable difficulties and could be postponed until a later date.

45. The analysis would cover such aspects as availability of short, medium and long-term credit; cost of borrowing; various devices of government participation in risk-bearing capital (e.g., mixed ownership corporations or development corporations); tax exemptions; related fiscal measures such as the liberalization of depreciation schedules for tax purposes, and differential treatment for taxation purposes of reinvested profits; duty exemptions on imported equipment and/or raw materials; etc. The Committee noted that some work relevant to the project as regards fiscal and financial incentives is being conducted under the regular activities of the Secretariat in the fiscal and financial fields, including work in connexion with substantive servicing of technical assistance operations.

46. The study would also discuss the interrelation and complementarity of the various measures mentioned above.

47. The project would be carried out in several stages. The Secretariat would first make brief comparative surveys of country experiences. These surveys would involve direct inquiries to Governments, including planning agencies and operational organizations such as development corporations, and a review of studies made by various national and international organizations.

48. The next step would involve an analysis in depth of a limited number of country experiences.¹⁴ The countries would be selected, *inter alia*, so as to identify as much as possible the effect of individual measures. As an example, it is proposed to study countries in which there have been marked changes in policies which would make it possible to isolate the effects of the new measures adopted.

49. In the final stage of the project, the results of the above-mentioned analyses might be submitted to a working group composed of high level economists with a view to formulating recommendations for consideration by the Economic and Social Council. It is also considered that it might be helpful to incorporate the results of the inquiry in manuals.

50. In connexion with this project, the Committee stressed the importance of measures by the Governments of capital-exporting countries to encourage the flow of capital towards under-developed countries, as well as of measures by the Governments of the latter to provide a favourable environment to foreign investors. The Committee took note of the Secretariat studies on the flow of private capital prepared by the Secretariat pursuant to General Assembly resolution 824 (IX) as amended by resolution 1035 (XI).

Project — Co-ordination between macro-economic targets and their implementation in mixed economies

51. The Committee noted that under one of the projects currently under way in the Bureau, an analysis and appraisal are being made of the field experience of technical assistance experts relating to programming and planning of economic development in a number of under-developed countries. It is expected that one of the conclusions that will emerge from this study is that in countries where economic policy is only partly based upon detailed elaboration of micro-economic targets, there arise problems of co-ordination between government goals and their implementation by the private sector.

52. Both in fully planned economies and in mixed economies, considerable discrepancies may develop between targets and actual achievements, leading to serious difficulties (e.g., foreign exchange shortages) and necessitating

serious cutbacks in the original targets or goals. The proposed study would focus on certain problems of implementation which arise in mixed economies where plans or programmes imply to a very large extent the co-operation of the private sector. The study would analyse the methods used by Governments in various countries to establish a link between planned targets and their implementation in major projects. The problem is one of whether an effective link or perhaps a "feed-back" mechanism exists or could be developed so that discrepancies are detected and necessary adjustments made either in the plan itself on a continuous basis (e.g., in the form of the so-called "open end" planning), in the organizational arrangements or in the implementation itself.

53. The Committee felt that only a limited amount of information is available on these "feed-back" techniques. The co-operation of government agencies and research institutions may be necessary in this respect. It is expected that the study might lead first to an understanding of the mechanisms involved and, subsequently, to refining techniques of planning, organization and implementation, so as to provide a guide for action for Governments and technical assistance experts in planning.

Project — Industrial zones or estates

54. In addition to indirect means for promoting private investment, there exist a number of direct measures of promotion which have been used in many countries. It appears increasingly from the studies on industry already undertaken by the Secretariat (e.g., on capital intensity or level of mechanization, size of plant, management) that external economies — availability of power, transportation, repair and maintenance facilities, skilled labour, spare parts, etc. — are major factor in the dynamics of industrialization.

55. A growing number of newly industrializing countries have engaged in the establishment of industrial zones or estates as a means of facilitating the development of industries. This device makes it possible to take advantage of certain economies of scale, for example, in regard to construction facilities and availability of power, and to supply certain services more effectively. The term "industrial estates" is usually applied to facilities intended to attract and develop small-scale industries, while industrial zones are of wider scope. Under the device of industrial zones or estates, the role of the public authorities consists mainly in taking over a large part of the financial burden involved in the creation of overhead facilities — both economic and social — required for the operation of industry and, in some cases, part of the direct investment in fixed capital itself (e.g., construction of buildings). For the private entrepreneur, a substantial portion of the stock of capital investment normally required for the establishment of the industry is converted into a "flow" in the form of rental payments; this makes the investment opportunities more accessible to many entrepreneurs and also reduces the capital risk. Government subsidies are often made available. In many cases, special government agencies are set up to organize and guide the establishment of industrial zones.

56. The objectives which are sought in the establishment of industrial zones or estates are complex and involve elements of public policy in a variety of fields. There is, first, the provision of direct promotional incentives through the supply of certain external economies (e.g., factory buildings, power, housing, technical services) on an integrated basis, and secondly, there are also economic and social considerations relating to

¹⁴ See also para. 83, below.

location of industry, industrial decentralization, town planning policies, etc.

57. The proposed project would analyse the experience of selected under-developed and industrialized countries in establishing such zones or estates in the light of the factors which motivated their establishment and the criteria which governed the choice of measures. The preliminary stage would consist of a review of available documentation, which might be supplemented by direct inquiries to governmental agencies concerned.¹⁵ The analytical work would take the form of a series of comparative case studies in which an attempt would be made to evaluate whenever possible the economic effects of such zones or equivalent devices. In this connexion, attention would be given to such questions as evaluation of economies of scale in housing, building and the installation of public utilities; scope and cost of common services, such as maintenance and repair; location services and location planning, including the problem of costs of decentralization; and relationship between the industries in the zones and the dispersed industries, including also an appraisal of the extent to which the establishment of industrial zones or estates permits to reduce the burden of initial investment to the private entrepreneurs.

58. A study would also be made of the complementary credit and monetary incentives. The work would be carried out by the staff of the Bureau of Economic Affairs, in co-operation with appropriate national and international agencies.

Project — International assistance in the supply of equipment and related requisites for the establishment of industries

59. The pace of industrialization in under-developed countries is hampered by the low rate of capital formation, in particular, the volume of available capital equipment. While a major effort should be made by under-developed countries to accelerate the rate of domestic capital formation and direct it into productive channels, foreign assistance in the form of capital imports from abroad is a major requirement. Studies are necessary of the experience regarding international assistance in the form of supply on favourable terms of industrial equipment (which at the present stage cannot be produced in the under-developed countries themselves) in relation to the alleviation of capital shortages.

60. A study would be made of the experience of developed countries in supplying industrial equipment to under-developed countries under advantageous conditions, including the supply of blueprints and designs for equipment, descriptions of technical processes, etc. In the course of the study, account would be taken of the related problems of adaptation of technology and equipment mentioned elsewhere.

61. The study would cover the range of industries in which such assistance is now being extended, the terms and conditions of the agreements, as well as the need for complementary measures that may be required such as supply of technical aids for designing and erecting plants and installing equipment, supply of technicians to assist in the early stages of operation, supply of spare parts, either imported or manufactured in the country, etc.

¹⁵ It is believed that the experiences in Australia, Brazil (Belo Horizonte), India, southern Italy, Mexico (Ciudad Sahagún), the United Kingdom, several states in the United States, and Puerto Rico, would be particularly interesting. Other countries may be included in the project as additional material becomes available.

62. A closely related aspect is the need for training the technicians and managers of the aid-receiving countries, who will be responsible for operating the new industries. Attention was already drawn to this question in the first report (E/3143) of the experts in industrial management who met under the programme of work.

63. It is therefore proposed to take up a further study of the available experience of industrial countries in training national personnel of under-developed countries, in connexion with the supply of equipment to the latter. This aspect of the project would cover questions of recruitment and selection of trainees, organization and operation of training programmes in the host countries and, as relevant, additional on-the-job training after installation of the equipment.

64. The study of some of the latter aspects would involve co-operation with the ILO and other international organizations.

Project — Collection, analysis and dissemination of experience under various technical assistance programmes relating to industrial development

65. Many governmental and non-governmental agencies throughout the world are engaged in providing technical assistance to under-developed countries in the field of industrial development. As a result of these activities there exists a vast amount of experience which deserves to be explored in a systematic way.

66. In the view of the Committee, the United Nations is, among these agencies, in a perhaps unique position to collect, collate, analyse and appraise the relevant material. In serving as a central clearing agency, the Secretariat might play a constructive role in stimulating and promoting the relevant activities of various organizations throughout the world in a co-ordinated fashion. The Committee noted that some of these functions were already carried out by the Secretariat in the field of statistics.

67. It is expected that such action by the Secretariat would elicit a favourable response both as regards exchange of information on research and direct co-operation in certain projects. The Committee is aware of statutory limitations to making public certain information, but believes that an acceptable system of safeguards could be devised.

68. It is suggested that the Secretariat would begin by eliciting information relating to technical assistance activities carried out by the different organizations. Subsequently, it might make inquiries on specific subjects. In view of the vast amount of such material, the project would be carried out in phases relating to particular aspects of the industrialization process. The first phase might be confined to processing data relating to over-all and major operating and overhead costs and capital requirements, collected in connexion with feasibility studies or studies on operating experience in specified industrial lines in various areas.

Project — Special problems of small-scale industry

69. Many of the obstacles to the development of small-scale industrial enterprises are related to the general structural weaknesses of the economies of under-developed countries, and thus affect all industries irrespective of size. A preliminary inquiry which has been conducted by the Bureau of Economic Affairs, principally on the basis of field reports of technical assistance experts, indicates that the problems affecting specifically the smaller firms are to be found mainly in respect to finance, technology and organization of industry, these aspects being often interrelated.

70. The conventional channels of industry finance are often inaccessible to the small enterprise, due principally to lack of local banking facilities, or high cost of banking administration, factors of risk, difficulties of securing collateral security; the small borrower is thus placed at a disadvantage as compared to the larger enterprise. The same factors may sometimes affect adversely even the operations of the special financing schemes established by Governments to aid small-scale enterprise.

71. In approaching the problem of assistance to small industries, due attention should be paid to certain aspects: thus, the small enterprise may not be economic as compared to the large undertaking; the product may not meet accepted norms and wages and labour conditions may be substandard; also, the cost of social overhead investments related to the establishment of small industries, especially in smaller communities, may be very high.

72. In many under-developed countries, Governments have attempted to assist small-scale industries not only in respect of their financial needs, but also to find solutions to their technological, organizational and marketing problems. In many cases, assistance to small-scale industry involves a number of interrelated measures whereby provision of finance is combined with assistance in raising the technological and managerial efficiency of the enterprises. Furthermore, in a number of countries, certain relationships have evolved between large and small industries, including co-operative production and marketing arrangements, and subcontracting arrangements.

73. It is proposed to explore some of these questions in a project which would deal with the following two sets of problems.

74. The study would first examine the financing needs of small-scale enterprises, and the role of such factors as the growth of demand, competition from larger industries and imports which affect these needs; also, the extent to which the demand for finance is being met by commercial banking and other credit sources. The study would next examine government financing, credit insurance and other similar schemes, and special schemes such as hire-purchase (including the institutional aspects), and analyse policies and operation.

75. The study would also deal with the related problem of the provision of technical assistance, management services and other services to industry, including schemes for supervised credit which appears to be a basic complementary aspect of small industry financing schemes. The study would be carried out, if necessary, in collaboration with other organizations interested in this field.

76. The study of the question of relationships between large and small enterprises might focus on subcontracting arrangements on the one hand, and on the part played by small industries in converting or finishing the production of large industries on the other hand, as evidenced in most industrial countries; these are particularly significant in some countries in certain branches of industry such as the metal-working, engineering, shipbuilding and paper industries.¹⁶ Under these agreements, the large company generally provides the small industries with technical and financial assistance.

77. It is proposed to draw upon the experience of a few selected countries where such arrangements exist in order to evaluate the possibilities offered by these devices. The study would cover the sectors of industry where subcontracting, converting or finishing arrangements are applicable and the types of arrangements used. The

available experience would be analysed with a view to assessing the economic effects of this device and its effectiveness as a means of promoting small-scale industries. In view of the possibility of abuses arising from the weak position of the small enterprises vis-à-vis the large company, an evaluation would also be made of the experience in supervision and regulation by Governments.

78. Case studies of representative industries in various countries would be undertaken¹⁷ in co-operation with the secretariats of the regional economic commissions and, if necessary, national and international research agencies. These studies would be followed by the preparation of a general analysis of the subject.

Other proposals for research

79. The Committee noted that research on functional problems of industrial development is being conducted under the current programme. So far, research of this type has been directed at analysing and evaluating the experience accumulated in the field operations in the following areas: capital intensity, planning, management, and problems of small-scale industries. The Committee agreed that further studies of such problems based on field experience and other relevant sources should be undertaken as the need becomes apparent.

80. In addition to research on functional problems, the Committee considered that specific industry studies might be useful to under-developed countries which, because of limited resources, find it difficult to engage in technological research in these directions. In this connexion, it considered that studies might be undertaken in fields where the introduction of new technologies or the adaptation of existing ones would be of particular interest (for example, direct reduction of iron ore, desalting of sea or brackish water and special techniques for processing indigenous raw materials). Countries which do not possess a heavy industry and where metallurgy and machine-building are little developed might be interested in a study of the technical possibilities of small-scale blast furnaces, the use of small converters for production of steel, and widespread use of welding in machine-building which would permit production of large machine parts in the absence of heavy casting, forging and pressing facilities. Studies by consultants accompanied by collection and analysis by the Secretariat of data on economic aspects would be extremely useful for under-developed countries.

81. Another problem which is of considerable interest to some under-developed countries is the integrated development of certain branches of industries. As an example, a study might be undertaken on the development, on a national or regional basis, of factories producing parts for large-scale assembly plants in certain engineering industries; problems of integrated development also arise in chemical industries.

82. The Committee considered that the setting up of technological research institutes, industry servicing institutes, industry extension centres and similar institutions (some of which are among the fields of assistance of the special Fund) is a task of major importance. In this connexion, it considered that there was need to undertake studies incorporating the experience of institutions of this type already established in a number of countries, which would provide a fund of information for setting up new projects in this field.

¹⁷ Relevant instances can be found in Argentina, Australia, Brazil, India and Italy, among other countries at different levels of development, as well as in some industries (e.g., shipbuilding) in the Netherlands and the United Kingdom. The prevalence of sub-contracting is a well-known feature of the Japanese industrial structure.

¹⁶ See also para. 81 below.

83. The Committee considered that industrialization problems in individual countries, in the broad context of the national economy, are of particular significance and importance and suggested that the experience of countries with different economic systems and different degrees of government intervention in the economy, including those with an important public sector, should be analysed. As an example, a study might deal with the relevant experience of developed countries with nationalized enterprises. Country studies might also be undertaken in order to evaluate the experience of both industrial and under-developed countries as regards the strategic factors of technical or economic nature (e.g., natural resources and the domestic market) bearing upon the course of industrialization, including their effect upon the economic structure of the countries.

V. IMPLEMENTATION OF THE PROGRAMME OF WORK

84. The Committee discussed the implementation of the programme, with special reference to methods of work.

85. It considered that, in order to enable the Secretariat to discharge its responsibilities under the proposed programme and to undertake related projects in the field of general economic development, including planning and programming techniques, an appropriate increase in staff is required. In this connexion, the Committee noted with satisfaction that the Industry Section in the Bureau of Economic Affairs has been recently given the status of a branch, corresponding to its accrued responsibilities.

86. As regards methods of work, some projects under the programme would involve, as in the past, co-operation with the secretariats of the regional economic commissions which, by their nature, are in close touch with the economic problems of their member countries. It is proposed that the scope of this co-operation be widened. Close co-operation should also be maintained in carrying out some projects with the relevant specialized agencies; this would include, in particular, the International Labour Organisation, the Food and Agriculture Organization of the United Nations, the United Nations Educational, Scientific and Cultural Organization, the International

Bank for Reconstruction and Development and the International Finance Corporation.

87. Implementation of the programme would also include employment of consultants, collaboration on some problems with government and private institutions, convening of international conferences, committees of experts, working groups, symposia, etc., with a view to promoting the exchange and pooling of experience among specialists from various countries. Some of the proposed projects involve inquiries to Governments for eliciting information on particular points and it is the hope of the Committee that co-operation of the Governments will be forthcoming. In this connexion, the Committee noted that the Economic and Social Council requested the Secretariat to encourage, when appropriate, the organization of seminars, consultations and training centres, in order to facilitate the practical application of the programme [resolutions 649 A (XXIII), para. 2, and 674 A (XXV), para. 3] and to publish the results of work under this programme, in the form of readily usable manuals [resolution 674 A (XXV), para. 4]. The Committee endorses fully this recommendation; it will be noted that the results of certain investigations, in particular those undertaken in connexion with certain industry studies (para. 34 above) and the project on government goals of economic policy and the private sector (paras. 41-51 above), may lead to the preparation of manuals.

88. The Committee recommends that adequate resources be provided to the Secretariat for the activities listed above. The Committee approved the use, as in the past, of the *Bulletin on Industrialization and Productivity*, published by the Bureau of Economic Affairs, as the main vehicle for dissemination of the results of the various projects carried out under the work programme. The Committee wishes to commend the Secretariat for the competent material published in the first issue of the *Bulletin* and for the articles prepared for the second issue, which had been included in the documentation submitted to the Committee.

89. The recommendations contained in this report are agreed upon by the Committee. In order to draw attention to certain individual viewpoints, the Committee thought it useful to transmit to the Council the memoranda presented to the Committee for discussion by certain of its members (E/3213/Add.1).

Document E/3213/Add.1

Addendum

[12 March 1959]

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I. MEMORANDUM BY DR. KOICHI AKI (JAPAN)

[Original text: English]

1. Our Committee has been convened by the United Nations Secretariat to discuss problems of industrialization in the under-developed countries because there is

an urgent need of formulating the ways and means of approaching these problems.

2. The proposals for the work programme presented by the Secretariat contain some projects dealing with problems of planning and programming the industrial sector as a whole and others relating to the area lying

between macro-programming of sector targets and the design of productive plant and facilities, including, in particular, the study of several functional aspects of industry. In the light of my personal experience, I am greatly interested in the proposals which stress the necessity for a micro-economic approach; for example, those suggesting studies of size of plant, capital intensity, etc., on the basis of actual industrial practice.

3. I appreciate the reasons for which the Secretariat has decided to propose studies of functional aspects of industry concurrently with projects involving macro-economic analysis. There are, in under-developed countries, shortages of capital, particularly of foreign exchange; it is said that their present economic stagnation is partly related to misuse of capital. While a certain volume of investment has been made during, say, the past ten years with a view to promoting industrialization, the under-developed countries are still confronted with serious difficulties in their attempts to reach a higher level of economic development. They need a more balanced and speedier development of their economies. This is one of the reasons for which the Economic and Social Council is making every effort to promote industrialization in these countries. To give an example, the construction costs of hydro-electric installations are generally higher in the under-developed countries than in the industrial ones. This is due to the technology used in construction works, to the lack of knowledge of the hydrologic situation of those regions, as well as to a lack of demand for electric power. These countries may have vast potential resources, but, as the present market for electric power is limited, electrification is undertaken little by little and the cost of power is inevitably higher. Even where it is possible to lower construction costs, the poor performance of the installations also leads to higher operating costs. As another example, many irrigation works are now under construction in these regions and some of them have already been completed. However, the attachment to traditional methods of cultivation is an obstacle to the use of modern facilities and techniques. Similar examples may be found in regard to many industrial sectors in these countries.

4. Thus, the present economic stagnation in those countries appears to have been brought about by the ineffective use of capital in the past; this misuse of capital might be one of the items we should consider in our deliberations. More attention should also be paid to economic questions at the enterprise level; hence the need for a micro-economic approach in studying the present obstacles to industrialization.

5. I am well aware of the need for general economic forecasts for planning and programming industrialization, and I fully support the proposal that the United Nations Secretariat should engage in the periodic establishment of figures relating to the following economic categories: national income, consumption, investment, government expenditure, and exports and imports in the main regions of the world.

6. At the same time I would suggest that the Secretariat should review and analyse the problems which different countries have encountered at various stages of their industrialization. Such country studies might be carried out by the Governments themselves. However, it is clear that similar problems are faced in countries at similar stages of development. To avoid duplication in work and to ensure a wider application of the results, such studies might be undertaken through the well-organized facilities of the secretariats of the regional economic commissions and of the Secretariat at Headquarters.

7. I would like to refer briefly to some problems Japan is now facing in promoting its industrial develop-

ment. Japan's annual rate of increase of manufacturing production has been very high in the past several years—somewhat above 20 per cent—and there is today a certain apprehension regarding over-equipment and over-production in several industrial sectors. The drive for modernizing manufacturing equipment was made necessary by the recent rise in prices of raw materials and in wage rates, as well as by difficulties in procuring materials. The recent progress of productivity in the advanced countries has also stimulated modernization of equipment in Japan.

8. For instance, the high price of indigenous coal has prompted the establishment in Japan of more efficient thermal power stations of larger installed capacity and higher productivity. Electricity was formerly supplied by a well-organized system of hydroelectric and thermal power stations, hydro-power being supplied in base load stations and thermal power in supplementary stations. However, the recent progress in thermal efficiency has changed this situation. Thermal power stations are now gradually supplying base load and hydro-power stations peak load. The increased supply of electric energy was thus associated with certain changes in sources and costs of power.

9. In the past, the development of Japanese industry was determined by the type of raw materials available. Japan is now coming to the stage where the structure of its industry is to be reviewed. Macro-economic planning may provide it with targets for each sector of its industry, but inevitably these will be subject to modification according to the progress of productivity in each sector. In my view, this is the main reason why we should make use of micro-economic approaches in order to guide our industrial development.

II. MEMORANDUM BY MR. C. BOBROWSKI (POLAND)

[Original text: English]

1. By its very nature the research work of the United Nations Secretariat is not and should not be of a purely academic character, of indirect or remotely practical use. The aim of the United Nations studies should be to supply interested Governments and entities with creative elements for reasonable industrialization policies. The above simple and apparently unquestionable assumption leads to three practical consequences:

(a) In order to assure the widest possible use of the results of the Secretariat's research, it seems appropriate to group individual projects in larger sets of related subjects. The method of approach involving broader studies seems to be more effective than that which consists in multiplying the number of limited or narrow contributions, even though each might be of considerable value.

(b) Although there is no reason to exclude beforehand subjects which might be of interest to under-developed countries that do not have macro-economic industrialization plans, it seems justified to concentrate on topics which are of particular interest to countries that already have some forms or elements of planning or programming. It is in the latter countries that there is the greatest demand for United Nations research studies on industrialization.

(c) Taking into consideration the practical aim of the research studies of the Secretariat, it is essential that the method applied should be such that these studies would become a basis for preparation of practical and useful recommendations. It should be stressed therefore that, although analysis of narrow problems or separate isolated measures of industrialization policy is unavoidable in the first stages of research, it does not, however, lead *per se* to well-founded appraisals of development policies and to recommendations of practical

value to the authorities responsible for economic policy. Such appraisals and recommendations can be made only after a particular problem or a specific measure is considered against the background of the full economic picture of the country in the process of industrialization. In this context, it seems essential to stress the significance and importance of country studies (case studies of representative types of economies), because such studies have to analyse particular industrialization problems in the broad context of a national economy. Analyses of specific problems or measures would be fully utilized in the framework of broader studies.

2. If we consider industrialization not as an action limited to constructing one or more industrial enterprises in a country, but as a continuing process — which appears to be the right approach — there is an unquestionable need for a number of measures of a very broad scope, directly or indirectly related to industrialization, and for a minimum intensity with which these measures should be applied. Also, it is clear that a certain minimum of co-ordination of action in separate sectors is essential for a successful industrialization policy. Therefore, the best approach is to consider industrialization problems against the background of a macro-economic development plan and of the set of measures required for its implementation. Even if there is no macro-economic plan at all, or an evidently imperfect one, or there are difficulties in creating appropriate links between the plan and the micro-economic decisions, the research on the industrialization policy should, in my opinion, tend constantly to link the specific problems and measures with basic micro-economic problems, such as formation and distribution of the national income.

3. This point of view may find expression in the methodological recommendations of the Committee. It seems desirable, however, that the very grouping of research projects should indicate this approach, thus excluding any doubts in this respect. In view of the foregoing, I believe that all research projects discussed by the Committee could be included in three groups:

(a) Economic policy measures aiming at speeding and steering the process of capital formation according to the industrialization programme. This group could include measures of influencing private enterprise and problems related to the development of small industry;

(b) Capital-saving measures of economic policy, both on the scale of a single plant and of the national economy as a whole. This group could also include micro-economic studies of capital intensity, etc.;

(c) Measures aiming at decreasing the balance-of-payments difficulties which, as we know, in most cases set a limit to the rate of growth of countries in the process of industrialization.

4. It seems that the above arrangement fulfils the following requirements:

(a) It allows the grouping of individual studies within a larger framework;

(b) It prevents the separation of micro-economic and macro-economic approaches;

(c) It also suggests to the Secretariat the direction of future work within the three broad areas of activity, after it has completed the programme now being worked out by this Committee.

III. MEMORANDUM BY MR. VOJIN GUZINA (YUGOSLAVIA)

[Original text: English]

1. I had the intention to make, before the end of our discussion, a few points which might perhaps be taken into account in preparing our report.

2. During our discussions, it was pointed out that, in order to accelerate industrialization of under-developed countries, planning and programming represent a basic and, to a large extent, a preliminary task. The discussion has shown that the scope of this group of studies should be somewhat enlarged so as to avoid the present limitations; this is the case, for instance, of the project on government incentives for "steering" investment decisions, which envisages a study of measures for the implementation of economic plans only in the private sector of the economy. It was also observed that the scope of the projects in the second group — dealing with external economies — was rather limited. In the discussion, a more comprehensive approach was advocated.

3. In a general way, I would suggest that the projects to be carried out by the Bureau of Economic Affairs should primarily present comprehensive information on experiences in different parts of the world. For this reason, they should deal with the experiences of countries with different economic systems and different degrees of government intervention in the economy; in this respect, I favour studying the experiences of countries with a predominant public sector and centrally planned economies. This is particularly relevant to projects on planning and programming of industrial development.

IV. MEMORANDUM BY MR. STACY MAY (UNITED STATES OF AMERICA)

[Original text: English]

1. Upon a number of occasions during the session of the Committee I have registered my conviction that both country planning agencies and technical assistance missions endeavouring to offer advice on national or regional programmes of economic development are working at a great disadvantage because of the general lack, in the less developed areas, of sufficient data of the sort essential to sound development planning. This deficiency is notably glaring with respect to the industrial and in particular to the manufacturing segments of the economies of these areas.

2. My own experience in this field has led me to place a considerable emphasis on the systematic determination of the lines of industrialization which could be started in a given area with the greatest prospect of success. Accepting the goal of broadening economic bases as one of primary urgency, I have always felt that sound planning should start with a careful inventory of local resources, natural, human and institutional. This includes a careful appraisal on a comparative cost basis of existing industrial activities, grouped by industrial lines, and, within each line, by the major categories of operating costs and capital costs. This being obtained, it is generally relevant to determine the actual volume and judge the potential volume and trends of local capital accumulation, both private and public, as well as of foreign capital commitments of various types. In addition, since foreign exchange availabilities are generally of crucial importance to the volume of capital equipment that may be imported, it is appropriate to make a careful inventory of the export lines that lend themselves to be expanded directly or through a greater degree of local processing, and of the major import categories that could be economically replaced through local production.

3. In short, I believe that fruitful macro-planning for industrial expansion must be built up inductively through the careful weighing of prospects line by line through essentially the same type of comparative cost and market potential appraisals applied by knowledgeable investors, whether local or foreign.

4. Hence, I have urged that the activities of the United Nations should give greater emphasis to this approach. Even though many other factors are relevant and should not be ignored, I believe that the elements cited are so vital to directing efforts in a pattern that will maximize progress that I have urged this approach as one that should receive concentrated attention.

5. I fully recognize that few of the less industrialized nations have developed much, if any, systematic reporting on industry cost structure. Therefore, it has to be built up. A number of the United Nations feasibility studies have made notable contributions in this direction. But a few prototype studies are not enough.

6. It seems to me that the current approach to development assistance is enormously wasteful. There are literally scores of programmes going forward under international, regional, national, public and private auspices. Through many of them, an impressive amount of the empirical, feasibility type of research I have described is going forward or has been completed. But no agency has collected it, let alone analysed it in order to draw soundly based conclusions as to which lines of industrial development promise to yield the greatest possible success and the largest returns in a given area. Therefore, general industrial development planning, as well as advice in this field, have gone forward in an erratic fashion—sometimes excellent, sometimes misguided—for lack of a secure foundation.

7. To correct this deficiency, some sort of a "clearing house" seems to be required, and the United Nations Secretariat appears to be the logical, if not the only conceivable, agency that could serve in this capacity. The Secretariat at Headquarters and in the regions and the secretariats of specialized and affiliated agencies have already done much in the way of collecting and collating international statistics in many fields upon a standardized basis.¹

8. However, the type of information needed in this field cannot in general be gathered from government statistical bureaus. Nor are the "clearing house" functions I have in mind restricted to wholesale collecting of documents in a "librarian" manner. The function of knowledgeable analysis is an essential adjunct.

9. I believe that if the Bureau of Economic Affairs were to indicate its willingness to serve in such a "clearing house" capacity, it would enlist a very wide co-operative response.

10. As I see it, the first step would be for it to indicate the type of findings obtained by other organizations in research work on industrial problems in specified areas that it would undertake to collate with its own. Such a proffer might be broad or narrow, formal or informal. Initially, it might be wise to make it reasonably narrow and informal. Perhaps, in the first instance, it might be confined to obtaining specific data relating to over-all and major operating costs and capital requirements collected in connexion with feasibility studies or from operating experience in specified industrial lines for various areas.

11. The incentive for co-operating would be the same one that operates with respect to, say, certain questionnaires on the intentions of United States business firms in regard to plant and equipment expenditures. The percentage of response is usually very high, as there is confidence that individual returns will not be revealed, and as the prospect of "feed-back" in receiving tabulated figures and informal analyses is highly valued.

12. I think that there would be good prospect of a comparable response to a United Nations proffer such as I have proposed. Hundreds of such feasibility studies might be made available: those carried out by or on behalf of such United Nations affiliates as the International Bank for Reconstruction and Development, the International Finance Corporation and, prospectively, the Special Fund; ECLA and ECAFE; the United States Export-Import Bank or the International Co-operation Administration technical assistance programmes; the Colombo Plan Group; the United Kingdom Colonial Development Plan; and numerous other national foreign assistance programmes. An even greater volume of such studies has been especially prepared by technicians for official development agencies of under-developed countries. A variety of private foundations are also getting into this field. I believe that all of these would respond to an intelligently conceived request offering reasonable safeguards, would maintain their support of the effort, and would value the "feed-back" effect of their co-operation.

13. I think that there might even be a surprisingly high degree of response from private industrial consulting agencies, and from private foreign investment concerns, in providing information on certain types of questions.

14. In stating the need for such a "clearing house" effort and in urging its consideration as one of this Committee's recommendations, I would emphasize again that I am not aggrandizing empirical research as opposed to attempts to formulating general principles. Rather, I am putting forward this proposal in the belief that an effort of this sort is a prerequisite to developing knowledge from which sounder principles may be derived.

15. It has been urged in the Committee that the Bureau of Economic Affairs make greater use of certain national or private research agencies to perform work that they can do well, which would allow the Secretariat to concentrate on work that only it can do. My proposal is not unallied. I am urging that the Secretariat gather from other agencies and interpret a fund of knowledge that is basic for planning and which can only be made available for that purpose if such an initiative is exerted.

V. MEMORANDUM BY MR. A. MOLINARI (ITALY)

[Original text: English]

1. In his statement, a Secretariat official gave us a clear idea of the broad technical assistance activities of the United Nations and of their value. It is difficult to conceive how, given the available resources, and the procedures followed in extending technical assistance, more could be done to deal with the great variety, the wide scope and the geographical dispersion of the thousands of problems for the solution of which technical assistance is requested. The variety of the requests is extremely wide; they range from advice on fundamental planning questions to short-term expert assignments in a small industry. All requests, important or marginal, are taken into consideration, within the limits of the resources, if they have been presented in due time and in due form. The statistics contained in the documents which have been circulated to us give an idea of the magnitude of the work accomplished. However, even after having obtained this information and having recognized the value of the assistance extended, the question still arises of the extent to which it did not prove possible to render technical assistance, either because of limitation of resources or for any other reason.

2. This is not revealed by the statistics, nor can it, perhaps, be revealed by them. A country which has to

¹ It may be mentioned in this connexion that much more could be done along this line with respect to the break-down of figures on industrial production.

wait one year or more, without receiving technical assistance or without being sure that assistance would be forthcoming, may well forgo it. Other countries may not know what services may be available and may not therefore request them.

3. In my opinion, it would be useful to explore and estimate, even approximately, the amount of technical assistance which could be extended to under-developed countries if means to meet their basic and most urgent needs were available. I venture to think that this would reveal that, unfortunately, the technical assistance rendered represents only a small percentage of the needs — a drop in the ocean.

4. However, the heart of the matter is not only the assistance. There is a qualitative aspect which is of pre-eminent importance. This leads me to take up a basic question relating to the work of the United Nations in this field.

5. From the explanations given us, it appears that the functions of the Bureau of Technical Assistance Operations (BTAO) and, if I am not mistaken, a large part of those of the Bureau of Economic Affairs are essentially of a "passive" character, inasmuch as action is subordinated to government requests. The scheduling — in time and space — of action appears to follow the chronological order of submission of requests, rather than a more rational system of priorities based on the needs of the under-developed countries. Some areas of technical assistance may be overcrowded with requests and others, more important, may be neglected. Furthermore, the functions do not include dissemination or co-ordination of information; as has been pointed out, there is no clearing-house, nor any "screening" function. The functions are largely passive; it is the interested countries which are expected to be active.

6. I fully realize that there are some "constitutional inhibitions" and that procedures can hardly be changed. However, I think that, after ten years of experience, the BTAO, as well as the Bureau of Economic Affairs, could have side by side with their present functions a major "active" function and that this could be done without hurting anybody's feelings and without upsetting completely procedures which, to outsiders, may appear to be exceedingly rigid and inhibitive.

7. Not only does the BTAO fail to make offers of its services, but it also has often to take steps to curtail demand. In my view, it should take the initiative and make offers of some fundamental services to under-developed countries, on the basis of some system of priorities — in the wide sense of the word — so as to "activate" a more rational, more specific and more efficient demand for technical assistance services. Another way to activate this demand may consist in disseminating detailed information on the valuable experience that the BTAO has gained. This could be done in an appropriate fashion, for instance, without naming the recipient countries. Illustrations could be given of what has been performed and of what else could have been done under different circumstances. Not to utilize this experience is to waste it. To take such an initiative requires only a modest dose of courage.

8. Organizing expert meetings or seminars, studying the work performed up to the present by experts, and publishing, even without mentioning names of experts or countries, information on results achieved or on possible fields of activity are active functions which, in turn, would "activate" the interest of under-developed countries. This might constitute a first stage; in a second stage — which would break the vicious circle which inhibits efficiency — demand for technical assistance

services would be "activated", rationalized and assessed according to importance.

9. In my view, nothing should prevent this type of "activation", not even the limitation of present financial resources. The BTAO and the Bureau of Economic Affairs should become motor centres capable of transmitting impulses in all directions. This would no doubt elicit a strong response from many quarters.

10. The above suggestions may, I think, indicate the path to be followed. They tend to develop a method of stimulating activities which could gradually evolve into a natural co-ordinating function. They tend to make possible a multiplication of ideas and initiatives and, thereby, a process of selection of requests which would be in the interests of the under-developed countries. There is a time to attempt and even to risk. It is my impression that this time has come and that the first steps in this direction should be taken courageously.

VI. MEMORANDUM BY PROFESSOR JAN TINBERGEN (NETHERLANDS)

[Original text: English]

1. The process of industrialization raises many complex problems. By far the larger part of the problems involved relates to activities on the spot — that is, to the establishment of industries in cities, towns and villages. Some guidance and encouragement is to be provided by public authorities — local, state or federal. A smaller number of problems is of international significance; these may most appropriately be dealt with by a central agency such as the United Nations. The Secretariat of this Organization should, however, engage only in those tasks which can most efficiently be carried out by a central agency. By its nature, such an agency can work only at a higher cost than a decentralized one and, to be justified, its activities must present considerable advantages in order to compensate for these higher costs. In a general way, it is appropriate that a central agency should be concerned with:

(a) tasks requiring the authority which corresponds to international responsibilities in dealing with world problems;

(b) tasks of co-ordination with a view to avoiding inconsistency and duplication;

(c) tasks to supplement the action of other agencies when aims of international policy are not fulfilled;

(d) any other tasks in which economies of scale would play a role.

2. With regard to industrialization, the main tasks of a central agency such as the United Nations consist in providing information in the widest sense of the word. Such information may relate to general economic development, technological progress, nature and results of policies and measures applied in various countries, and the like. A particularly strong case for centralized action is to be found in the field of general economic forecasting and planning; here, the elements of co-ordination as well as of economies of scale play a role.

General economic forecasts²

3. The industrialization policy of any country should be based, among other things, on knowledge, even approximate, of the future levels of demand for the

² Ideas similar to those put forward here have been expressed by Robert E. Asher in *Economic Co-operation under UN Auspices* (Washington, D.C., The Brookings Institution, 1958).

commodities to be produced. Production, investment and other economic decisions should be based on such figures. Also, a satisfactory international "division of labour" can only be obtained through knowledge of size of markets. This would be of particular interest to small countries, as specialization in goods in which they have a comparative advantage and an enlarged international exchange of goods would increase both their national product and the flow of goods available to them.

4. Great errors may be made, however, when a number of countries, acting independently of each other, engage in the same industry with resulting over-production in that sector and, as a counterpart, possible scarcities in other sectors. In order that the industrialization process may take place as smoothly as possible, so as to avoid both shortages and over-capacity, Governments should have information on, among other things: (a) the prospective development of demand for the most important categories of commodities and (b) the prices at which each country is or will in the future be able to produce various types of goods. Such information would provide one element—but an important one—of the problem. It would not in any way prejudice expansion of production in any country nor check its economic development. It goes without saying that the availability of information of this kind is not a guarantee of smooth development; it is a necessary rather than a sufficient condition. It is clear also that information of the type indicated cannot be expected to be very accurate. By its nature it is bound to be imperfect and one can only aim at making it as helpful as possible. However, even in this imperfect form it could play an important role.

5. The present note deals with the first type of information only. The question of information about prices will require further study before practical steps can be proposed.

6. At present, the planning agencies of a number of countries or the other institutions in charge of formulating industrialization policies are each engaged in estimating trends in demand. This means, on the one hand, that a great deal of duplication in such work takes place and, on the other hand, that estimates are being made which are not too reliable since the information available to each Government is limited. Such work could much more efficiently be undertaken by the United Nations Secretariat. Not only is better information likely to be available to the Secretariat than to individual countries, but the Secretariat might even go one stage beyond pure forecasting and consult with Governments about the most desirable levels of national income or, at least, about possible alternative estimates.

7. The idea that international agencies are the most appropriate to undertake activities of this kind is not new. The Organization for European Economic Co-operation (OEEC) has, since inception, played an active role in providing figures on the prospective levels of income, exports, imports, etc. of its member countries. One of its most recent publications presents an excellent example of the type of co-operation that appears possible in this field. It shows estimates concerning the European economies for the period 1955-1960, supplied, on the one hand, by the individual Governments, after mutual consultation and, on the other hand, by the OEEC secretariat; the figures supplied by the latter appear to be based on more uniform appraisals of some common factors than the former.

8. It is therefore proposed that the United Nations Secretariat engage in periodic forecasts of the following economic variables: national income, consumption, investment, government expenditure, exports and imports

for the main areas of the world, subdivided by selected industries. All figures should be given for the last year for which statistics are available, for the current year and for the following year; at a later stage, estimates for the next five or ten years might be added. The areas to be covered might be continents and some of the major countries inside each continent, the remaining countries being presented as a group.

9. A list of the most important assumptions on which the estimates are based should be supplied and a number of alternative estimates might be offered in tabular form. Depending on the use to be made of the figures, alternatives taking account of the different rates of conversion of national currencies, might be presented. The ideal procedure would be that the figures be published under the auspices of the United Nations after a first draft had been discussed in a conference of experts from various countries. The responsibility for the estimates should, however, remain with the United Nations in order to guarantee uniformity of approach.

10. The execution of this work would be facilitated by the work done in national centres. It is probable that reliable figures would be available in centrally planned countries and in countries with some type of over-all planning. For countries where no national estimates are available, the Secretariat may have to make rough estimates. Forecasts might be grouped according to their margins of error. The countries concerned might be assisted in establishing their own facilities.

11. To be organized, this work would require a considerable amount of international co-operation. Furthermore, it would not yield immediate results. It would take some time and effort even to obtain a concerted scheduling of activities. Satisfactory methods to cope with the difficulties of the task can be devised, but their application will take some time.

VII. MEMORANDUM BY PROFESSOR E. P. UNKSOV (USSR)

[Original text: Russian]

1. It is generally recognized that industrial development is today the basis of the development of the over-all national economy of under-developed countries. It is also admitted that the establishment of basic industrial sectors such as metallurgy, power and manufacture of producers' goods is required to ensure a stable and independent economic development and to overcome the lack of diversification of the economic structure and the backwardness which have their roots in past history.

2. The concrete ways and means of carrying out industrialization in different countries may vary. However, government measures to direct national efforts towards economic development are a basic factor which determines the pace and the achievements of the process of industrialization. This is true both as regards countries with a planned economy and countries with a mixed economy (public and private sector). This makes it necessary to study the experience in the field of planning of production of developed countries with nationalized industries. It should be recognized that the process of industrialization of any country should not be considered as depending upon the changing conditions of the world market. The production of those types of industrial products which are needed by a country and which should be produced by it with a view to achieving its over-all economic development should not be considered as depending upon changing conditions of demand in the world markets; it should be noted that these changing conditions do not lend themselves to scientific

calculation and forecast. Similarly, the direction of development should not be based on the so-called constant "relative advantages". There was a time when this thesis was used to justify a one-sided development of under-developed countries.

3. It is well known that a developing industry creates its own market. This by no means excludes the possibility and the necessity of developing international trade in the interests of under-developed countries. These countries see advantages in a further development of international trade to the extent to which such a development is not contrary to their national interests and is compatible with their national policies of development of industry and trade.

4. It should be pointed out that the one-sided character of the economy of many under-developed countries and the lack of an advanced processing industry put these countries in a very unfavourable position on the world market. For these reasons, it is necessary to study the relationships between prices of raw materials and industrial products with a view to formulating effective international measures to assist these countries in maintaining the level of raw material prices and in narrowing the "scissors" between the prices of raw materials and industrial products.

5. The pace of industrialization of under-developed countries is an important factor. These countries cannot afford postponing the adoption of practical measures with a view to creating certain "special conditions" for industrial development. In order to accelerate the pace of industrialization, industrial assistance is required, in particular in the form of supply on favourable conditions of those types of industrial equipment which, at the present stage of development, cannot be produced in the under-developed countries. In developing their industry, the under-developed countries should use the most advanced scientific knowledge and techniques. However, in the transitional period which precedes the establishment of heavy industry, it is appropriate that certain countries where metallurgy and machine-building is little developed should set up and operate small-scale blast furnaces such as those used in the People's Republic of China, employ Bessemer converters for the production of steel and use welding on a large scale in machine-building; the latter permits the production of large parts of the machines without applying heavy casting, forging and pressing means. It is also appropriate to set up repair shops, small and medium enterprises for the production of finished construction components, plants producing instruments, etc.

6. Scientific research is required to achieve these objectives. It should be carried out by institutes for scientific research of highly industrialized countries; it would also be necessary to create and expand technological institutes in under-developed countries.

7. It may be considered that the most effective way in which the United Nations could promote industrialization would consist in joint efforts by Member Governments to assist in financing industrial development in under-developed countries through special funds of the United Nations. The United Nations should also give continuing attention to the experience gained in schemes of bilateral assistance for the development of industry in under-developed countries.

8. An international contribution to the process of industrialization of under-developed countries might also take place through the United Nations by organizing an international interchange of advanced technical, scientific and economic experience, which would be valuable in furthering in a practical way the industrialization of under-developed countries. To these ends the Secretariat of the United Nations could, among others, take the following measures which would be carried out either upon its initiative or with its co-operation:

(a) International discussions (conferences, seminars, symposia) to exchange the experience of specialists of various countries with a view to determining the possibilities of practical application of modern scientific and technical knowledge for accelerating the industrial development of under-developed countries.

(b) Within the limits of the financial means available and of the technical possibilities, scientific, economic and technical research should be undertaken; at first, such research should deal with those problems which are of more general interest to the majority of under-developed countries or to countries in the regions covered by the regional economic commissions. This should not consist in pure research; the Governments of under-developed countries should be able to apply research to meet their concrete needs in creating their national industry.

(c) Assistance by the United Nations as well as other international organizations to government efforts in building up national technical cadres of all levels. In this respect attention should be paid, in particular, to the experience of certain industrial countries in training cadres from under-developed countries in connexion with the building of factories and the supply of equipment to less developed countries. This gives these countries the possibility to build and create new enterprises with their own cadres and at a smaller cost.

9. The current work of the United Nations in the field of industrialization should be of a continuing nature and should be carried out either by a special organ on industrialization problems or with the assistance of a group of experts similar to the present Committee, which would periodically review the current work programmes and problems.

10. In my view, the above considerations might be taken into account by the Secretariat in setting forth its work programme on industrialization.

Document E/3213/Add.2

Addendum

[Original text: English]
[30 March 1959]

NOTE BY THE SECRETARY-GENERAL

1. In submitting to the Council the report of the Advisory Committee on the Work Programme on Industrialization, the Secretary-General suggests that having regard to the valuable guidance provided in the Secretariat by the Committee, the Council might wish to consider the opportunity of authorizing him to convene such an Advisory Committee preferably composed of the same persons sometime in 1960.

2. Should the Council take favourable action on the above suggestion, the costs of convening the Committee in 1960 would be approximately \$13,500, the same as in 1959. These costs are based on a total of eleven participants meeting at Headquarters for about fifteen days.

3. The Secretary-General would propose to take this additional requirement into consideration when he submits revisions of initial budget estimates for 1960 to the General Assembly at its fourteenth regular session.

DOCUMENT E/3218 *

Recent developments relating to new sources of energy and recommendations regarding the agenda for an international conference

Report of the Secretary-General

[Original text : English]
[6 March 1959]

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INTRODUCTION

In resolution 653 III (XXIV), adopted on 26 July 1957, the Economic and Social Council requested the Secretary-General to prepare, in collaboration with appropriate specialized agencies, a progress report on developments in the field of new sources of energy other than the atom, together with recommendations regarding the agenda of an international conference on these energy sources and their economic applications.

The present report is submitted in response to this request. In its preparation the Secretariat had available to it material from various sources; in particular, several scientific background papers were provided by the United Nations Educational, Scientific and Cultural Organization.

The report covers developments since the publication in 1957 of the previous study, entitled *New Sources of Energy and Economic Development* (E/2997), and, in the same vein, deals mostly with practical applications capable of promoting higher levels of living and economic development in less-developed areas. In part I, a brief review is made of the developments in solar energy, wind power and geothermic energy, and recommendations are

made for a tentative agenda for the international conference envisaged in the above-mentioned resolution. In part II, a more detailed account is given of recent technical and other developments in respect of each of the sources of energy in question.

PART I

Summary and recommendations.

SUMMARY OF RECENT DEVELOPMENTS IN THE FIELD OF NEW SOURCES OF ENERGY

1. Since the publication of *New Sources of Energy and Economic Development* (E/2997) notable progress has been made in developing applications of solar, wind and geothermic energy. Much less, however, is recorded regarding tidal power and thermal energy of the seas, and they are not discussed in this report.

2. The progress achieved is the result of numerous efforts on the part of government agencies, manufacturing firms, individual inventors, universities and other organizations, in various parts of the world. Although some co-ordination of these efforts has already taken

* Incorporating document E/3218/Corr.1.

¹ United Nations publication, Sales No.: 1957.II.B.1.

place, much remains to be done for systematic exchange of information on an international basis. In these circumstances, it is somewhat difficult to collect data — technical or economic — on operating and other experience in this field.

3. The potential applications for solar energy are numerous, and, in the case of some, progress is such that early economic utilization may be expected. Perhaps the most significant feature of the more recent efforts is the increasing attention being given to new materials particularly suited for use in solar equipment. Participating in this search for suitable materials are leading plastics manufacturers and firms producing aluminium, glass and other materials. As a result, new materials have not only been developed but costs of some have been appreciably reduced — the price of polycrystalline silicon cells, for example, is approaching \$1 compared to its former price of \$10.

4. Direct conversion of solar energy to electricity — by means of photovoltaic cells (solar batteries) or by thermoelectrics converters — is a field where rapid advances are being made, in large part as a result of outer space or atomic energy research, which is also responsible for much of the progress in research applications of solar furnaces. Several practical applications have been evolved — solar batteries, for example, having found many uses in the low-power field.

5. Work also continues, though at a slower rate, on use of solar energy in steam-raising, air-conditioning, refrigeration and water distillation. A number of prototypes are under construction and are expected to be tested in 1959 and 1960. In air-conditioning and refrigerators the objective is to solve engineering problems, while in steam-raising and water distillation the prototypes are designed to lower cost of operation. Less progress appears to have been made in developing solar storage, solar engines and the use of solar furnaces for industrial production, although the potentialities of the last two are of particular interest to under-developed countries.

6. Progress in research has been translated into a limited number of commercial applications. Solar water heaters head the list, being produced in several countries, in various sizes and at different prices. Solar-powered radios, batteries, control equipment and similar low-power appliances are also produced and sold in greater number. The products being developed and produced are largely geared to the needs of industrialized countries.

7. In the field of wind power, the past two years have been a period of consolidation and of transition from experimentation to applied research and commercial use. Small and medium-size wind power plants are now available on a commercial basis (some types are produced in series), and the operating experience which has been gained is substantial. In under-developed countries wind power surveys and site studies are undertaken on an increasing scale, and have led, in a few cases, to the installation of the first modern wind power plants. Technical assistance requests in this field are also now in evidence, and a realistic evaluation of the potentialities and limitations of wind power is emerging.

8. Present efforts are also directed to the question of the best use of intermittent output or ways of overcoming these limitations. For some uses the fact that output is intermittent is not an obstacle. Water pumping is one such use, and other uses are being found, such as cathodic protection of water and oil pipelines. Ways of maintaining a firm output are, however, being sought where wind power is used for other purposes. One idea involves the operation of a group of windmills, with

various wind conditions at the respective sites. Another method is to operate small wind-power plants in conjunction with storage batteries or a stand-by diesel engine or all three combined. A firm supply of power can be guaranteed in this way, but at a higher cost.

9. Still another possibility being explored is the linking of large wind-power plants to a local or country-wide grid system. The limitation here is that the wind power must be relatively low cost power — about equal to or lower in cost than the fuel used for the thermal power stations. Most of the work on wind power linked to a grid system is being done in Europe, where large-sized windmills could be employed. Considerable progress has been made in the past two years in the design of large-scale wind power plants. Prototypes now operating give promise of investment costs below \$200 per kilowatt and lower generating costs than those of conventional units in many European countries.

10. In addition to low maintenance costs, wind power plants in general have the advantage of being simple to operate — an advantage of particular importance to areas lacking trained personnel. Their widespread use now depends on finding suitable wind-power sites, on careful studies of local requirements, either on an intermittent or minimum supply basis, and on the lowering of manufacturing costs through mass production.

11. Until recently geothermic power was being produced only in Italy (at Larderello). In the past few years, however, electricity production by this means has begun in other countries and is being considered in still others. Geothermic energy has also begun to be used for industrial purposes as well as domestic heating. Technical assistance is being furnished in the development of a plant for producing sea salt by means of geothermic energy.

12. The greater interest in geothermic power is also reflected in the search for and discovery of new geothermic fields, and in increased research activities concerning subterranean heat and engineering techniques involved in its use.

13. The development and operation of new geothermic plants has already shown that there are considerable differences between geothermic fields as regards steam and other conditions. Some of the fields appear to have much more favourable conditions than those in the Larderello field. The time appears to be ripe to compare the operational experience and costs of the various plants in existence.

SUGGESTIONS FOR THE AGENDA FOR AN INTERNATIONAL CONFERENCE ON NEW SOURCES OF ENERGY

14. The suggestions for an agenda set out below in fulfillment of the request of the Council (resolution 653 (XXIV)) represent the items which it is believed could most profitably be discussed at any conference which the Council might contemplate for the near future. It will be noted that the agenda focuses attention on applications rather than on the discussion of scientific principles and basis research. This is partly because progress has latterly been mainly in the field of applications and partly because a single conference would scarcely be suited to the more general scientific aspects of research and progress in these diverse fields. It is thus suggested that the following considerations should determine the contents of the agenda:

(a) The three sources — solar, wind, geothermic — are of special interest, particularly to areas facing fuel scarcity or high energy costs. They differ as regards the

methods by which energy from them can be derived and the end purposes to which such energy can be put. A better understanding is needed of the potentialities and limitations of each, and of the possibilities for combining use of one or more of them and/or other sources of energy.

(b) The agenda should give prominence to lines of action which have already led or are about to lead to commercial applications. Theoretical studies need be discussed only if they appear to be closely related to practical developments. The subject of costs should also be emphasized in order to ensure that discussions of various developments are kept within a sound economic framework. Finally, needs for energy should be stressed so that discussions might be directed towards meeting such needs by specific means.

(c) For each of the three sources of energy, the agenda items might be formulated on the basis of end-uses, again so that practical applications might be emphasized.

15. Solar energy has been given the major place on the draft agenda proposed below, for this is the new source which has led to the most extensive and diversified developments in many parts of the world, developments which have already resulted in some commercial applications. The range of proposed topics includes all significant lines of investigation, commercial applications, related equipment and material. The topics include distillation of salt-water, mineral processing by means of a solar furnace, and other applications which do involve the use of solar energy for valuable purposes. Photochemistry and photosynthesis, although important topics of scientific research, are not included because of the absence of practical energy application and the unlikelihood of early commercialization.

16. Wind power has long been used for pumping, grinding, and other purposes, but its use for generation of electricity is a recent development. The agenda items on wind power are designed to permit appraisal of wind power potentialities and consideration of large and small equipment, its operation, cost, and recent improvements. The manner of use of the generated power and means for compensating for fluctuating output are also considered important topics. Since wind power is potentially applicable in favourable areas of probably every country in the world, the subject justifies a comprehensive appraisal of latest developments such as is outlined in the proposed agenda.

17. The agenda for geothermic energy, which is more localized but appears to have favourable prospects, includes discussion of the nature, identification and evaluation of geothermic sources. The principal commercial uses of the most important supplies, for heating and for power generation, are emphasized, and provision made for discussion of the prospects for this type of energy in under-developed countries.

18. The suggested agenda would take about ten days of discussion if the meetings on each source of energy took place successively. The question arises whether it would be desirable to have simultaneous discussions. While adoption of this procedure would shorten the duration of the conference, it may be inadvisable from the point of view of delegates who would prefer to attend all sessions (the delegates interested in energy needs *per se* in contrast to technicians interested in one specialized field). Whichever course is adopted, it is recommended that a plenary session be held at the conclusion of each section's discussions, to appraise the general status of knowledge and development and to summarize the exchange of views.

19. It is recommended that, at the three sections of the conference, each special topic be comprehensively

introduced by a rapporteur on the basis of papers presented to the conference, so that the debate be limited to the confrontation of varied experience and new possible avenues of applied research.

20. It is estimated that the preparation of such a conference—including planning, soliciting of papers, arranging for speakers, and so forth—would take about two years. As, in the interim, developments might be such as to require modification of the agenda, any programme such as that suggested below should be considered as being flexible at this stage.

21. The proposed agenda is as follows :

A. *Solar energy*
(excluding photochemistry)

- I. Solar energy availability and instruments for measurements
 1. Available solar radiation data.
 2. Types of solar energy data required for design purposes.
 3. Instruments available; types and costs.
- II. Use of solar energy for heating purposes
 1. Water heating :
 - (a) Residential uses : types, costs, experience ;
 - (b) Industrial uses : types, costs, experience.
 2. Cooking : types, costs, experience.
 3. Residential space heating : types, costs, experience.
 4. Heat storage :
 - (a) Conventional methods (sensible heat and heat of fusion type storage) : types, costs, experience ;
 - (b) New methods and materials : types, costs, experience.
- III. Use of solar energy for cooling purposes
 1. Food preservation by refrigeration : types, costs, experience.
 2. Space cooling :
 - (a) Residential use : types, costs, experience ;
 - (b) Industrial use : types, costs, experience.
- IV. Use of solar energy for mechanical power and electricity production
 1. By means of piston engines and turbines : types, costs, experience and application.
 2. By direct conversion to electricity :
 - (a) By means of solar batteries (photovoltaic cells) : types, costs, experience ;
 - (b) By means of thermoelectric converters : types, costs, experience ;
 - (c) Uses of solar electricity :
 - (i) Existing commercial uses : types, costs, experience ;
 - (ii) Uses under development.
- V. Use of solar energy for production of fresh water and salts
 1. For production of fresh water :
 - (a) Basin-type distillers :
 - (i) Small-scale distillers : types, costs, experience ;
 - (ii) Large-scale distillers : types, costs, experience ;
 - (b) Other types of distillers.
 2. For production of common salt and other chemicals : types, costs, experience.
- VI. Use of solar energy for high temperature processing
 1. Description of equipment, types, characteristics and costs of solar furnaces.
 2. Use of solar furnaces in mineral raw material processing : experience, costs of processing and daily capacity.
 3. Use of solar furnaces for other productive purposes : experience, costs of processing and daily capacity.

4. Use of solar furnaces for research: existing and potential.
- VII. New materials and their use in solar energy development
Plastics; metals; glass; silicon; semi-conductors for thermoelectric elements; other materials: characteristics, experience, costs.
- VIII. Plenary session
- B. Wind power*
- I. Wind measurements
1. Techniques and costs of wind power surveys.
 2. Results of recent wind power surveys.
 3. Techniques of interpretation.
- II. Mechanical wind-power units (for water pumping, grain milling, etc.)
Experience in utilization; cost, operative costs and hours of operation.
- III. Electric wind-power units
1. Commercial small-scale units (up to 10-kilowatt): types, recent improvements, costs, experience, utilization of output.
 2. Units suitable for central power station use: types, recent improvements, costs, experience, utilization of output.
- IV. Combined use
Wind-power units combined with storage batteries; diesel motor; grid system; small pumped storage hydro-power plant; and other sources of energy: types, costs, experience and utilization of output.
- V. Plenary session
- C. Geothermic energy*
- I. Description of known geothermic fields
- II. Evaluation of geothermic potentials
1. Prospecting for geothermic energy: description of methods, costs and experience.
 2. Evaluation of capacity, pressure, temperature, etc.
 3. Appraisal of exploitation costs.
- III. Methods and equipment for harnessing geothermic energy
Types, costs and experience.
- IV. Utilization of geothermic energy for power generation
Types of power units, costs and experience.
- V. Utilization of geothermic energy for heating purposes
For process heating in industry, house heating and for other purposes.
- VI. Mineral by-products from geothermic steam
- VII. Plenary session

PART II

Recent technical and other developments

SOLAR ENERGY

22. Efforts during the past two years to harness solar energy for practical purposes have been intensified. A number of the processes studied have proved fruitful, some having already resulted in new commercial products. Progress has been furthered by the Association for Applied Solar Energy (Phoenix, Arizona, United States) and such meetings of experts as the Solar Furnace Symposium (Phoenix, Arizona; January 1957), the International Symposium on Saline Water Conversion (Washington, D.C.; November 1957), the International Colloquium on Thermal Applications of Solar Energy (Mont-Louis, France; June 1958), the Symposium on Salinity Problems in the Arid Zones under the auspices

of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Iranian Government (Teheran, Iran; October 1958), and the Symposium on Solar Energy (Natick, Massachusetts, United States; October 1958). In addition, the possibilities of solar energy devices for everyday uses were publicized by a number of exhibitions—for example, the display in the Hall of Science of the Brussels International Exhibition in 1958, with contributions from Belgium, Israel and the United States.

New devices and materials

23. A number of new devices and materials have been introduced which tend to improve efficiency and reduce costs in practical applications. Work has resulted, for example, in the invention of new methods of computing, evaluating and testing flat plate and focusing collectors. This, in turn, has led to better designs and to estimates of optimum size for collectors for particular applications.

24. Still more important results in terms of performance and costs have come from the use of new materials and loc-emissivity selective black collector surfaces. New plastics or plastic combinations are increasingly used as a cheap substitute for glass in flat plate collectors. The fluorinated hydrocarbon plastic film—"R" film—is one such material which is cheap enough, compared to glass, and yields satisfactory results. For focusing collectors, anodized aluminium and vacuum aluminized plastics have been used. The latter type holds considerable promise, particularly as more weather-resistant plastic materials are developed. Earlier it was thought that reflector type collectors were more expensive than flat plate and should be used only when high temperatures had to be produced. However, new plastics may result in much cheaper reflector-type collectors, provided that a mounting simpler than the expensive conventional heliostatic one is used. In this connexion, cylindrical parabolic mirrors mounted on simple horizontal east-west axes and requiring only periodic adjustment to solar altitude have already been used with success in several countries. Another type of collector, suitable for very large areas, has recently been experimented with in France and Israel. This is called the "solar pond" and consists of a shallow black-bottomed tank containing water.

25. Progress in the field of semi-conductors is leading to considerable advances in the direct conversion of solar energy to electricity by thermo-couples and photovoltaic devices—i.e., without the use of an intermediary mechanical engine. Extensive work has been conducted, particularly in France, the United Kingdom, the United States and the Soviet Union, on the use of such semi-conductors as bismuth telluride and lead and, more recently, on insulator type thermoelectric elements. These elements contain materials stated to be mixed valence compounds of the transition metals, such as iron, nickel and the like. One of the most remarkable advances is the recent development of thermionic converters—i.e., high-power evacuated thermionic diodes that produce a flow of electrons from a heated cathode to a cooled anode. These appear to afford efficiencies up to 12 per cent, but high temperatures are required which necessitate the use of parabolic mirror collectors.

26. As regards the conversion of solar energy by photo-voltaic process, steady progress has been made, especially in the United States, in reducing the cost of silicon cells. According to the latest estimates, the price of new polycrystalline silicon cells is approaching \$1 compared to \$10 not so long ago. On the other hand, manufacturers have succeeded in improving greatly the efficiency of selenium cells, which are relatively inex-

persive. At present they are more economical than silicon cells, although the electricity produced by them is still much too expensive for large-scale use.

Use for heating and cooling purposes

Water heating

27. Design studies, manufacture and installation of solar water heaters are proceeding in such countries as Australia, Belgian Congo, Burma, Chile, Egypt, France, French West Africa, Israel, Italy, Japan, New Zealand, the Union of South Africa, the United States and the USSR.

28. Solar water heaters of the so-called "hot box" type were constructed and tested in Tashkent, USSR, by the heliolaboratory of the Academy of Sciences. Tests showed that in certain sunny regions solar water heaters can be operated from March to October, with an average efficiency of 30 per cent and optimum water heating of 50°C. Mass use of the heaters was recommended for bath houses, laundries, etc., where water heating requirements do not exceed 50 - 60°C.

29. A recent survey has revealed the existence of over a dozen sizeable manufacturers of this kind of equipment in the United States. Solar water heaters are also now produced commercially in French West Africa, Israel and a number of other countries.

30. A helioboiler with a parabolic-cylindrical reflector has been built and tested in the USSR. It heats 44 litres of water per hour and is considered economical for use on large farms and in factories. Its cost when mass produced is estimated at 3,500 roubles, which could eventually be reduced by simplification of construction. Other water boilers producing up to 50 kilogrammes of steam per hour, with a pressure of seven atmospheres, are being considered for mass production for use in industries which do not require a constant supply of steam.

31. A large helioboiler using horizontal cylindrical parabolic aluminium mirrors, and capable of producing about one ton of steam per day, at 14 atmospheres pressure, is now being constructed in Israel.

Cooking devices

32. The first attempts to introduce the solar cooker to villagers in less developed areas failed, largely due to the neglect of sociological and other factors. It now appears that the solar cooker may become a common sight in some countries where women are accustomed to moving outside the house, where the main meal is taken during the day, and where the introduction of the cooker is handled by persons familiar with the psychology of the people. More attractive and practical (umbrella type) cookers have recently been put out on the market at reduced prices. Solar cookers of rigid plastic, with reflective metallized lining, promise to be even cheaper (about \$5 each).

33. An experimental sun kitchen, including water boiling and food cooking installations, was tested by the heliolaboratory of the USSR Academy of Sciences. A kitchen such as this, working 250 days yearly in sunny regions of the USSR (Middle Asia), on an eight-hour daily basis, would, it was estimated, save about 1,000 kilowatt-hours of electric energy.

Space heating and cooling

34. Experimentation in this field continues in several countries such as Canada, Japan, the Union of South Africa, and others. In the United States, where space

heating represents a considerable item on the fuel bill, a number of solar-heated houses have been built in the past few years. Solar houses are as yet expensive, however, owing chiefly to the fact that long-term heat storage is not yet feasible. Some research has been done on heat storage, by various means—through use of insulated tanks of water, beds of granite broken into chunks, and heat-absorbing salts or chemicals. While some of these devices have proved of value for storage of heat from day to night, storage of summer heat for winter use has only remote prospects of achievement.

35. In contrast to space heating, space cooling with solar energy entails very little energy storage because of the naturally close relationship between cooling load and available sunshine. Investigations into solar air-conditioning were carried out in recent years in such countries as Canada, France, the Federal Republic of Germany, Japan, the United States and the USSR. Since tests conclusively show that air-conditioning increases human efficiency, even if used part-time, its application in less developed areas, especially in such public places as hospitals, schools and factories, may at some time be advantageous. This may be the case particularly in those areas where other local sources of energy are lacking.

36. It may also be mentioned that solar energy cooling systems for use in livestock shelters are being developed in the United States. The ultimate objective is to determine the best combination of solar collector, refrigeration cycle, and animal shelter for reducing summer heat stress on livestock.

Food preservation by refrigeration

37. Several research groups are engaged in developing a solar refrigerator. In Israel, a refrigerator has been devised whose cooling coil is part of an absorption system connected by piping to collectors mounted outside the house. By the ingenious use of east-facing and west-facing collectors, the sun is made to effect the cycling required in absorption systems. The Israeli system functions under vacuum.

38. In the Soviet Union and in France, ice-making machines based on absorption refrigeration have been constructed. So far, costs appear higher than those of conventional ice-producing machines, but in areas without other sources of energy, this solar device may prove valuable.

Use for the production of mechanical power and electricity

39. In mechanical power production by heat engines of the conventional type, i.e., pistons and turbines, thermo-dynamic considerations call for the highest possible temperatures. For this reason only reflector type collectors have been considered in most research undertaken.

40. Research on this subject continues in several countries. The above-mentioned helioboiler constructed in Israel, while not at present intended for power units, is expected to provide operating experience leading to a design for power purposes. Soviet scientists have drawn up plans for a large solar power installation to be erected in the Ararat Valley of Armenia. The plant would produce 11 to 13 tons of steam an hour (20,000 tons a year) at 400°C, and would be capable of generating 1,200 kilowatts with a back pressure turbine (or 2,200 kilowatts condensing) using 1,293 mirrors, 15 sq. metres in size, mounted on carriages rotating about a central boiler. Elsewhere, experimental designs have concentrated mostly on small power plants.

41. As regards direct conversion to electricity, most of the progress so far achieved is closely related to the

discovery of new materials for use in generation of thermoelectric (thermocouples) or photoelectric (solar batteries) power. As was implied earlier, the thermoelectric conversion devices suffer from the same thermodynamic limitations as do heat engines—limitations arising from the fact that high efficiency calls for high temperatures. Accordingly, research on new materials has concentrated on this point.

42. With regard to progress in the field of photoelectric conversion, mainly based on improving or reducing the cost of photo-voltaic cells, it is to be noted that silicon cells have a particular advantage in situations where space is strictly limited. Thus, silicon photo-voltaic cells have recently been put to spectacular use in providing the necessary electrical energy for the transmitters of satellites sent out to circle the earth.

Use for the production of fresh water, salts and chemicals, and for other purposes

43. Several small units, designed to produce a few litres per day of fresh water through simple distillation of sea or brackish water, have been built recently in Australia, Italy, African countries members of the French community, and the United States. Larger pilot plants have also been constructed and are being tested in the United States and the Soviet Union.

44. For single effect distillation, where solar energy is used directly to effect the evaporation, yields cannot exceed 10 litres per square metre per day, and will usually be half this amount, i.e., of the order of 1,500 litres per square metre per year or 35 US gallons per square foot per year. With fixed charges at a realistic rate of 10 per cent per annum, and allowing for the not insignificant maintenance costs of large areas (plastic cover has a tendency to tear in strong winds if the plastic has become scratched), it has been computed that fresh water will cost from \$3 to \$6 per 1,000 US gallons. Under the most favourable conditions, ultimate costs could, it has been suggested, be reduced to below \$1 per 1,000 gallons.

45. Moreover, a multi-stage desalting process promises to afford greater efficiency. On the other hand, this process requires a greater heating surface and therefore greater investments. Research is directed to overcoming this obstacle.

46. New methods of salt production by solar energy are the subject of investigations in several countries and have recently been put to commercial use in some countries. In the Union of South Africa particularly, an economical and efficient method has been evolved for separating common salt and Glauber's salt from natural brines, using solar energy and night brine-cooling.

47. Recent reports from Burma and India refer to the use of a mirror-type collector for concentrating palm juice to produce jaggery (unrefined sugar). The use of a solar reflector on the spot avoids having to transport the juice to a centralized evaporation plant, thereby preventing undesirable fermentation that would otherwise take place. The Indian scientists estimate that a simple mirror concentrator pays for itself in three seasons. An American research institution is studying the possibilities offered by solar dryers for candy-making in Puerto Rico.

Use for high temperature processing

48. Progress in this field of application of solar energy has been particularly rapid since 1956. Over thirty solar furnaces are now operating throughout the world, most of them located in France, the United States and the

Soviet Union. Most of the furnaces have a capacity of about 2 to 3 kilowatts (heat) and are laboratory tools used chiefly for fundamental research. However, two of them are large enough to operate on a semi-industrial scale—the solar furnace at Mont-Louis (France), with a mirror 11 by 9 metres, and the solar furnace at Natick (United States), with a mirror of 8.5 by 8.5 metres.

49. One of the great advantages of solar furnaces is that metals or chemicals to be treated can be exposed to very high temperatures (up to 3,500°C) without the contamination which is known to take place in conventional crucibles or brought about by electrodes in arc and other furnaces. The treatment is performed either by direct action of solar energy or in a conditioned atmosphere. A new device is the rotating furnace which permits large amounts of smelted and sintered high refractory materials to be produced.

50. Solar furnaces are particularly useful as laboratory tools for research investigation on fusion of rare metals because of the unique advantage of complete purity in processing. With the solar furnace it was possible, through hydrogenation, to produce chromium from chromium trionyde (Cr_2O_3) with a thermal reduction of 2,000°C. Direct heating by sun rays in solar furnaces is also used in testing various materials for heat resistance—for example, for nuclear devices purposes, where extremely high temperatures are entailed.

51. Research has also shown that solar furnaces may have practical and industrial applications which would permit early amortization of these expensive installations. These include the production of pure chemicals (Al_2O_3 , ZrO_2 , ThO_2), monocrystals and pure metals, all highly valuable for industrial purposes and best produced under these special conditions.

WIND POWER

Surveys of wind regimes and investigation of suitable sites for wind-driven plants

52. During the last few years the number of countries undertaking systematic research on wind behaviour has been steadily increasing.

53. A general wind survey in Israel has been completed and two small wind-driven electric generators have been installed. Research is now proceeding at the Haifa Technion, to determine the effect of topography on wind structure and on the changes in wind speed at different heights above ground.

54. An officially-sponsored wind power committee does work on wind surveys in Spain (including the Canary Islands) with a view to the use of windmills for water pumping and also in connexion with the desalination of brackish waters. At a windmill research station near Madrid, a wind-power plant and a range of wind measuring instruments are being tested.

55. In India, a wind power committee has been in existence for the past few years for the purpose of making wind surveys and studying wind behaviour. Testing stations have been established, in the Rajasthan area and in Saurashtra, to determine the possibilities of wind-driven plants, of various designs, for both water pumping and the generation of electricity.

56. In Uruguay, technical assistance was rendered during the period 1957 to January 1958. A wind-power committee, under official sponsorship, was established, and a survey of some ten to twelve selected wind-power sites, well distributed over the country, was initiated.

57. Studies on wind power possibilities are also being made in Burma, and in 1958, a Burmese engineer visited a wind-power research station in England and other European centres of wind-power research. Pakistan, also, is interested in the subject, and wind measurements are being made, with international assistance, to find favourable sites for water-pumping windmills.

Recent trends in wind-power technology

58. While the designs for wind-driven generators differ one from another, originating as they do in separate efforts in various parts of the world, there is general agreement on several points. The tendency is to employ conventional, propeller-type machines, driving a generator through some form of gearing, and using the minimum height of tower necessary to afford adequate ground clearance. Although not yet rigidly agreed upon, three blades, rather than two, are favoured because they give less vibration and smaller oscillations in power output. Following successful experiments in Denmark, there is also a tendency towards fixed blades, with bracing, and some form of control flaps rather than use of pitch-changing. There is advantage in mounting the blades upwind of the tower so that tower-shadow effects are reduced. Attention is also being given to the design of automatic starting and stopping control gear. Induction generators are commonly adopted for machines to be operated in conjunction with networks and, even for small autonomous installations, alternating current is preferred to direct current. A rectifier can be used to charge a battery for the maintenance of small essential supplies during calm spells.

59. There is a fair amount of agreement also on the rated (or full design capacity) wind speeds to be adopted. These are 9 metres per second in machines for places with relatively low wind speeds, and 11.2 metres per second for windier sites. Only for very windy sites will rated wind speeds of 13.4 metres per second or over be more economical.

60. The use of random energy, whether from the wind or any other local source, may be cheap if such energy is used as it is produced. Storage of this energy to level out the supply is expensive. Hence, where small wind-driven machines are used for power supplies for individual premises or for communities with a small local network, load-distributing devices to ensure that energy supplies are used as they become available, are essential. Where large units connected to a sizable electricity network are concerned, the question does not arise, nor where a simple water-pumping windmill is concerned. This can be allowed to operate any time of the day or night, and provided that there is an adequate reservoir to receive the water, the energy will have been put to good use.

Development of small wind-power units

61. Units with small ratings (under 10 kilowatts) are now mass-produced in several industrialized countries. These have various power applications, such as in radio and television relay stations, small residential areas, chalets, islands, isolated resorts, pumping plants for irrigation and drainage, navigation lights and fog signals.

62. A unit produced in the Federal Republic of Germany, for example, consists of a 6-kilowatt generator (alternating or direct current), speed increasing transmission, and a 33-foot diameter three-bladed steel rotor all mounted on top of a 33-foot steel tower. Proper orientation with respect to wind direction is obtained by a small "steering fan" mounted at the side of the generator, and regulation is accomplished by automatic controls which vary the pitch of the propeller blades.

63. Wind power units such as these have proved very successful in all types of weather conditions and appear to be particularly suitable for use in remote areas not connected to any electricity network and lacking conventional sources of energy. They have the advantage of being automatic and requiring very little maintenance.

64. These units may be connected directly to equipment which can be operated on an intermittent basis, such as water pumps, or to a battery bank to create a steady source of power. They also have been used in combination with diesel power, reducing fuel consumption and, especially, maintenance costs.

65. When a wind-power unit is combined with storage batteries, output voltage is measured by a sensitive bridge circuit which in turn controls a solenoid valve in the hydraulic system. Action of this valve causes the hydraulic control piston to react and affect propeller pitch accordingly. When the battery reaches a fully charged condition, the propeller pitch is adjusted to reduce the speed and thus proportionately reduce the output of the generator. During periods of low wind velocity, the generator is automatically disconnected from the battery by action of a reverse current relay.

66. The size of the battery bank depends on the type and magnitude of the expected loads and the available wind velocity at the location. The battery is required to be sized, so that when fully charged it can handle the electric load for two or three days without requiring a recharge.

67. Should very long periods of low wind velocity cause the battery to become nearly discharged, it may prove necessary to provide auxiliary charging equipment. This is often done by supplying a stand-by auxiliary diesel generator plant which can automatically start and stop as needed to prevent the complete discharge of the battery. Such an auxiliary diesel generator also provides a complete and independent source of power which is usually desirable at remote locations. However, the average wind velocity at the location of the wind power plant must be high enough to ensure that the diesel generator will need to be used for only a small fraction of total operating time.

68. Another interesting, and potentially important, development is the construction in France of an experimental wind-driven generator, of about 4-kilowatt capacity, for use in connexion with the cathodic protection of water or oil pipe-lines or other buried metal structures. This application is envisaged especially for dry areas in North Africa.

69. In addition, a new load-distributing device has been developed in the United Kingdom to improve the utilization of wind-generated power at isolated places.

Medium-scale wind-power units

70. A wind-driven power unit with a 25-kilowatt capacity has been developed in the USSR and is extensively used there for supplying electricity to villages and collective farms. The unit has a three-bladed 60-foot diameter rotor with a three-phase generator. The generator rating of 25 kilowatts requires a wind velocity of 9 metres per second with a minimum starting velocity of 5 metres per second. For periods of lower wind velocity there is a reserve diesel generator which supplies power to the connected load. According to Soviet scientists, this wind-driven power plant has proven much more economical, in most instances, than diesel power plants or steam power plants operating under the same conditions.

71. The unit is employed as the main part of an integrated system using wind-driven and diesel sets.

There is free-wheel coupling between each of the prime movers and the generator and the load in this system is distributed between the wind-driven and the diesel sets automatically according to the wind availability and velocity, with a frequency variation of ± 10 per cent.

Wind-driven generators for use in connexion with electrical networks

72. Research on and development of large wind-driven machines, for use in connexion with electrical networks, have been proceeding in a number of industrialized countries.

73. In Denmark, 13-kilowatt and 45-kilowatt wind-driven machines were tried out in the early post-war years. In 1957, a 200-kilowatt machine built at Gedser was officially inaugurated and trial runs begun. For the past several months this machine has been in continuous operation as part of the electricity supply network, with operation results closely approximating those which had been predicted on the basis of wind estimates on the site.

74. Two significant points may be noted in connexion with the Danish machine: (a) the successful use of a rotor diameter of 80 feet represents a considerable technical advance as compared to the rotor diameters used in the earlier experiments; and (b) the cost of the machine exceeded only slightly the original estimate of \$140 per kilowatt and is low enough to be economically promising as regards future wind-power generation.

75. In Algeria, wind regimes and wind-power possibilities have been under study for some years, with a view to the use of large wind-power plants as fuel savers and as part of the power network. A 100-kilowatt Andreau-type aerogenerator has now been installed by Electricité et Gaz d'Algérie on a well-exposed hill a few miles from Algiers. The trials have so far proved successful, with power outputs exceeding 100 kilowatts.

76. A 100-kilowatt wind-driven generator has also been built in the Federal Republic of Germany and was given preliminary trials in 1957. These proved successful, but the machine was damaged during a gale in January 1958. It has since been repaired and improved, and a new programme of tests is now under way. The machine is to be operated in connexion with the electricity supply network.

77. In Holland, a group of engineers has been trying to adapt the traditional windmill for use in electricity generation. One of these mills was inaugurated as an experimental plant in July 1958. The sails and control gear have been somewhat modified and the mill fitted with a 40-kilowatt electric generator.

78. In the United Kingdom, the Electrical Research Association, with financial support from the Ministry of Power and the Ministry of Agriculture, Fisheries and Food, and with the collaboration of manufacturers does research on the design and performance of wind-driven generators and on schedules of loading to ensure the most effective utilization of the energy produced. At the Cranfield field station for windmill research, it has made detailed studies of power outputs for different wind conditions and has evolved new testing methods (including strain gauge measurements of blade stresses) and new types of anemometers. Based on these studies, a new design for a machine in the capacity range 100-150 kilowatts is being made.

79. In the present context, the following experiment may be of interest. The Power Institute of the Academy of Sciences of the USSR carried out investigations in 1958 on the reliability of wind power supply when a number of wind power stations are interlinked. After

500 hours of operation it was determined that the wind velocity varied among the different plants and that such interlinking permitted the determination of a minimum firm output. Optimal distances between power stations were also determined. The results have not as yet been published.

GEOTHERMIC ENERGY

80. Considerable progress has been made during the past two years in several countries in exploring, developing and utilizing geothermic energy. Whereas at the time of the last report to the Council (1958) only one country (Italy) had geothermic power plants, at Larderello, today two other countries are producing electricity by this means, and still other countries expect to inaugurate plants in the near future. Other uses are being studied, and increased exploration has resulted in the discovery of additional fields—in France, Burma, Kenya and the United States (southern California).²

81. A geothermic power plant is being built in the United States (in northern California, Sonoma County). It is relatively small, is expected to require an investment of \$2 million, and to begin operations in April 1960. In addition, a large geothermic field was discovered (during oil drilling) in southern California, in a below-sea-level flatland, between the Superstition Mountains and a lake called Salton Sea. The steam and water discharge from wells drilled so far is reported to have a temperature of 225°F. This field, which has a potential estimated at 2 million kilowatts, is expected to be used for electricity generation and for process-heating in industry. Power production is slated to start in 1960.

82. Mexico's considerable geothermic resources, having been evaluated by a United Nations technical assistance expert, are now under active development. Drilling is being carried out by the Geothermal Department of the Federal Electricity Commission at Pahté, in the state of Hidalgo, and at Ixtlan de los Hervores in the state of Michoacán. No definite estimates of the power potentials of these fields have as yet been made, but the existence of high pressure energy is apparent in drilling. The first well blew out at a depth of 875 feet, producing a boiling water jet 400 feet high, which was, however, stopped up when calcium carbonate scale was formed. The second well also blew out, creating a crater and destroying the rig. Drilling continues in both fields, and it is planned to use the geothermic energy for electricity generation.

83. In the West Indies, following a preliminary evaluation by a United Nations technical assistance expert, exploration drilling was begun at Sulphur Springs in the Island of Santa Lucia. The first well site, at an altitude of 800 to 900 feet, is estimated to yield 50 million BTU of heat per hour.

84. In El Salvador, the Hydro-Electric Commission of the Rio Lempa has, through shallow drilling, struck geothermic energy at two places near Ahuachapan. These appear to be small fields. It is planned to use the geothermic energy for power generation.

85. Recent developments at the Larderello field in Italy, which was described in the previous report to the Council, are as follows. Daily average electricity production was 4,950,000 kilowatt-hours in 1957, 5,300,000 kilowatt-hours in 1958, and 5,700,000 kilowatt-hours at the beginning of 1959. In addition, a new geothermic field has been discovered at Bagnore, about 100 kilometres from Larderello. Investigations have already made it apparent

² The list of countries with known resources at that time will be found in the previous report (E/2997), pp. 86-89.

that this field, which lies at a depth of 850 metres, should be used for electricity production and the production of minerals. At Lago, still another field, where a small (300 kilowatts) plant existed before the war, a plant of 12,000 kilowatts capacity is to be constructed, drilling having proved the availability of sufficient steam reserves.

86. The considerable geothermic resources of Iceland have long since been used for space-heating and other heating purposes. A project for the use of geothermic energy for the production of sea salt is now under way, United Nations assistance having been lent in providing the services of a firm to design the plant. Domestic production of sea salt will reduce imports of salt, large quantities of which are required by the fishing industry. In addition, the possibilities of producing heavy water by use of geothermic energy were investigated in 1958 by a group of experts sent to Iceland by the European Nuclear Energy Agency. The experts proposed that a plant, having an annual capacity of 200 tons of heavy water, and requiring an investment of \$40 million, be constructed. Later, the Consultative Assembly of the Council of Europe recommended at its tenth ordinary session (1958) that particular attention be given to the possible utilization of Iceland's geothermal resources and the desirability of assisting industrial development in that country.

87. The first geothermic power plant in the USSR has begun operations. It is located on the Kamchatka Peninsula, hitherto depending on coal brought by ship from Vladivostok. Geothermic steam is also used for house-heating in the immediate vicinity. No details on the plant on the geothermic field have as yet been published. Exploration for geothermic energy in certain other parts of Siberia is also being carried out.

88. In the Rift Valley of Kenya, exploration drilling is also now taking place at an elevation of 6,200 to 7,000 feet, a few miles west of the extinct volcano, Mount Lougonot. In this region, steam escapes from vents over a wide area. No further details are at present available.

89. The first two geothermic plants have been inaugurated in New Zealand, one mainly for process heat and the other for power production. The former is run by a private pulp and paper company using steam from the Kawerau geothermic field, and is to be expanded for greater process heat use and for the generation of electricity. The latter is a power plant situated in the Wairakei geothermic field, one of several known fields in New Zealand. It began operating recently, and is part of a large-scale programme being carried out by the

New Zealand Ministry of Works with the assistance of scientists from the Department of Scientific and Industrial Research and two firms of consultants. The first stage, to be completed in the summer of 1959, will include five units of 11,200-kilowatt capacity and two units of 6,500-kilowatt capacity. At the second stage, capacity will be raised to 151,400 kilowatts and at the third stage to 293,000 kilowatts.

90. The Wairakei development has several interesting natural, technical and operational features. About 60 wells (of all types) have been drilled to date, and yet the full extent of the field has not been determined. Due to the kind of drilling methods employed, including the use of cooling mud and blow-out preventers, there has not been a single blow-out of a well. The average well depth is 2,000 feet. Wet steam is discharged from the wells with such intensity that the noise created was found to be a possible danger to workers required to withstand it over long periods. Levels as great as 140 decibels have been recorded. Various types of silencers have accordingly been developed to reduce the noise to readily bearable levels at close range. The Wairakei steam contains about 80 per cent by weight of water and, unlike that of the Larderello field, a comparatively small amount of chemicals. After water separation, it can be piped directly to the power house for electricity generation. Part of the separated hot water is flashed into steam by reduction of pressure and this steam is also piped to the power house.

91. There has as yet been no evidence of any falling off in production of significant change in temperature. During the past two years the wells have discharged more than the original estimate of natural heat flow for the whole Wairakei field. Recent estimates put the total capacity of the field at 1 million kilowatts, but the amount of power available can be ascertained reliably only by further drilling. The Government of New Zealand is planning to have investigations and drilling continued beyond the requirements for the three stages of the present programme. Also, it has been decided to explore another geothermic area, namely the Waiotapu field, some miles away.

92. In several countries, progress is also being made along a related avenue of research — namely, the study of the phenomena of earth heat. In Canada, for instance, old oil wells are used as "observation windows" into the interior of the earth. Results of expanded research in this direction may lead not only to ways of locating geothermic fields but also to the utilization of earth heat even when water or steam is not naturally present in the hot strata.

DOCUMENT E/3219

Industrialization

Progress report by the Secretary-General on the implementation of the programme of work on industrialization

[Original text: English]
[6 March 1959]

INTRODUCTION

1. This report is the third to be submitted to the Economic and Social Council under resolution 597 A (XXI) which authorized the Secretary-General to initiate the work outlined in "Proposals for a programme of work on industrialization and productivity" (E/2832)¹ and

requested him to report to the twenty-third session and annually thereafter on "the progress being made in planning and implementing the continuing work in the field of industrialization and productivity".

2. The present report differs in scope from the two previous ones. In resolution 674 A (XXV), the Council invited the Secretary-General:

"to establish a committee of experts . . . for the purpose of reviewing the programme of work in the

¹ Official Records of the Economic and Social Council, Twenty-first Session, Annexes, agenda item 5.

field of industrialization and productivity, and making recommendations to the Secretary-General on the further development of his programme and its implementation; and to include in his next progress report to the Council information regarding the establishment of such a committee."²

Since the recommendations of the Advisory Committee are based on a review of the programme of the Secretariat at Headquarters, it has been thought useful in this progress report to present, whenever appropriate, the work carried out in 1958-1959 against the background of the work completed earlier.

I. RESEARCH WORK

1. *Studies in industrial planning*

3. In the course of the discussions on the execution of the programme in the Economic and Social Council and the General Assembly, several delegations, particularly from under-developed countries, expressed the wish that more stress be laid on projects relating to planning and programming of industrialization. Bearing these views in mind, the Bureau of Economic Affairs has begun work on a project which attempts to analyse and appraise the experience and recommendations of technical assistance experts relating to planning and programming of industrial development in a certain number of under-developed countries. It is expected that the results of the study will facilitate formulation by Governments of requests for technical assistance in planning and programming, and provide some guidance to the experts extending advice in this field. The study is expected to be completed in the second half of 1959.

2. *Industry studies*

4. In the period under consideration, that is, between the twenty-fifth and twenty-seventh sessions of the Council, the Bureau of Economic Affairs has continued its studies of problems of capital intensity, and has completed a study of problems of size of plant in industry in under-developed countries.

5. *Capital intensity in industry.* It will be recalled that the subject of capital intensity was discussed in three articles published in the first issue of the *Bulletin on Industrialization and Productivity*:³ "Capital Intensity in Industry in Under-developed Countries", which reviewed and assessed recommendations made to Governments by technical assistance experts; "Choice of Technology in Industrial Planning", which aimed at presenting practical suggestions for a systematic micro-economic approach in carrying out research in this field; and "Capital Intensity in Heavy Engineering Construction", which attempted primarily to develop a method which might be applied in determining the appropriate capital intensity in other industrial branches where varying combinations of capital and labour are technologically possible.

6. In line with the policy pursued under the programme of linking the work in the field of industrialization of the Secretariat at Headquarters to the actual problems and needs of the regions, the last-mentioned study was presented to the Third Regional Technical Conference on Water Resources Development in Asia

and the Far East (Manila in December 1957). One of the recommendations of this conference called for expansion of research on the economics of earth-moving operations in multi-purpose water projects, to cover operations involving mechanical techniques and combinations of manual and mechanized techniques. In order to facilitate the exchange of information and experience in this field, it was decided to convene, in September 1959, a joint working party of the secretariats of the Economic Commission for Asia and the Far East (ECAFE) and Headquarters on earth-moving operations in the ECAFE region. The International Labour Organisation (ILO) has been invited to participate in this working party. The subject matter to be discussed will encompass earth-moving operations in multi-purpose river development projects, open-cast mining and highway and railroad construction.

7. The secretariat of ECAFE has circulated to Governments of the region a questionnaire on costs of construction, and will prepare analyses of the replies, which will be presented to the meeting as discussion papers. The Bureau of Economic Affairs is now engaged in an analysis of the replies which have been received so far from Governments of the region. This analysis will make it possible to bring out certain factors, such as availability and relative costs of capital and labour, affecting the choice of manual and mechanized techniques and their combination.

8. The paper to be prepared by the Bureau will attempt to test further the methodology developed in the earlier micro-economic studies in this field; it will focus attention on the determinants of costs and the effects of variations in cost conditions among the countries of the region. Use will be made in this analysis of data on a similar problem collected by the secretariat of the Economic Commission for Europe (ECE) from a certain number of European countries. In connexion with the project on the influence of mechanization on costs of construction of hydroelectric installations, the secretariat of ECE has circulated a questionnaire on costs of earth-moving to Governments in the region; the Bureau has assisted in the drafting of the questionnaire and has prepared an analysis of the replies which was submitted to the ECE expert group at its meeting at Geneva on 10 and 11 November 1958. This paper⁴ attempted to develop a quantitative measure of the rate of mechanization and to relate this measure to unit costs of earth-moving under the various conditions prevailing in the countries concerned.

9. *Size of plant in industry.* In the same category of micro-economic studies as those mentioned above, on capital intensity in heavy engineering construction, is the study prepared by the Bureau on "Problems of Size of Plant in Industry in Under-developed Countries" which appears in the second issue of the *Bulletin on Industrialization and Productivity*.⁵ Here again the purpose of the study is to develop a method of investigation which, in this case, could be applied to planning the establishment of new industries in under-developed countries. The study seeks to determine the appropriate size of plant by analysing the changes in costs and in investment outlays in relation to capacity of production. The study has been carried out in consultation with the secretariat of the Economic Commission for Latin America (ECLA) within the framework of the Central American economic

² The report of the Advisory Committee to the Secretary-General is submitted, together with a letter of transmittal from the Secretary-General to the President of the Economic and Social Council, as a separate document (E/3213).

³ United Nations publication, Sales No.: 58.II.B.2.

⁴ To be published in the third issue of the *Bulletin on Industrialization and Productivity*, which will appear at the end of 1959.

⁵ The second issue of the *Bulletin*, in press at the time of the preparation of the present report, will be made available to the Council at its twenty-seventh session. [Subsequently issued as United Nations publication. Sales No.: 59.II.B.1.]

integration programme which poses problems of the appropriate size of industrial plant in relation to the proposed regional common market. The industries selected—nitrogenous fertilizers and glass containers—are among the “candidate industries” which are being considered for establishment under the regional integration programme.

3. Studies on management problems

10. It will be recalled that a panel of experts selected with a view to bringing together the experience gained in this field under the United Nations technical assistance programmes was convened in October 1957 at Headquarters to discuss problems of management peculiar to under-developed countries. Following this meeting, a report entitled *Management of Industrial Enterprises in Under-developed Countries*⁶ was prepared by the Bureau and published in September 1958. In addition, revised versions of a number of papers submitted by participants to the panel are published in the second issue of the *Bulletin*. Among them are studies on “Labour Aspects of Management”, “Business Leadership in Under-developed Countries” and “Interrelations Between Large and Small Industrial Enterprises in Japan”. The Secretariat also summarized and revised, for publication in the second issue of the *Bulletin*, a background paper which it had presented to the panel; this article gives factual information on some problems in industrial management reported by technical assistance experts in the field.⁷

4. Studies in problems of small-scale industries

11. In the field of small-scale industry, an exploratory investigation of reports of United Nations technical assistance experts has been made with a view, on the one hand, to surveying conditions of operation and measures of promotion of small industries, as reflected in these reports, and, on the other hand, to ascertaining the fields of study in which further projects of the Secretariat might be carried out. One of the conclusions emerging from this study was that the problems affecting specifically the small firms were to be found mainly in respect to finance and management, these two aspects being generally interrelated. It will be recalled that these aspects were dealt with in an article on “Hire-purchase Loans for the Mechanization of Small Industry”, which was prepared by an expert at the request of the Secretariat, and was published in the first issue of the *Bulletin*.

5. Research projects related to technical assistance and Special Fund activities

12. In anticipation of the setting up of the Special Fund, the Bureau of Economic Affairs prepared a study on the “Establishment of Technological Research Institutes in Under-developed Countries”, which is published in the second issue of the *Bulletin*.

6. Studies on financing of industrialization

13. The working paper on industrial financing in Mexico mentioned in the last progress report (E/3078)⁸ will serve as a starting point for further country analyses

directed at a number of under-developed countries representative of various conditions with respect to economic and financial structure, including the need for foreign capital. The analyses are expected to develop information on typical financing patterns and to provide data on the sources and uses of funds allocated to industry; the research has already resulted in the preparation of an annotated bibliography which rounds up the existing body of literature on industrial financing and which will be issued in the course of 1959. The findings of the country studies will be analysed with a view to preparing a general report on the different techniques which can be employed for allocating financial resources to industry and for increasing the volume of these resources.

7. Studies on the social and demographic aspects of industrialization

14. *Community development and industrialization*. A series of case studies on the relationship of community development to industrialization and economic development are now under way in the Bureau of Social Affairs in co-operation with ECAFE. Field studies are being conducted in India, China (Taiwan) and Pakistan. Similar studies in other regions are being considered. As noted in the previous progress report, it is expected that these studies will provide material for an analysis of the actual and potential contribution of community development to economic development, and to the industrialization process.

15. *Urbanization*. The discussion of the problems of urbanization in under-developed areas, with special reference to the relationship between the industrialization and urbanization processes and the overlap of the social aspects of these processes (see *Report on the World Social Situation*,⁹ published in 1957) was followed by a study of programmes and measures for meeting problems of rapid urbanization, which has been published in the second *International Survey of Programmes of Social Development*.¹⁰ Economic and social aspects of the process of urbanization at the regional level are being studied in a series of seminars. The 1956 seminar on urbanization in the ECAFE region will be followed, in 1959, by a seminar in the ECLA region. Urban survey missions to four countries of the Mediterranean region are planned for the autumn of 1959.

16. Studies have been begun on the role of social services in assisting populations affected by the urbanization and industrialization processes. Special attention has been given to the social impact of urbanization upon family life, and the role of social services in meeting the urgent needs created by rapid urbanization.

17. *Environmental planning*. The environmental and regional planning aspects of industrialization were discussed at the United Nations seminar on regional planning which took place in Tokyo in the summer of 1958.¹¹ The subjects discussed were current trends influencing regional planning; the application of regional planning techniques to metropolitan, rural and resource-development areas; and regional planning considerations in the location of industries. Among the documentation submitted for the seminar by the Bureau of Social Affairs was a study on current trends influencing regional

⁶ United Nations publication, Sales No. : 58.II.B.5.

⁷ An article on “Use of Accounting as an Aid to Management in Industrial Enterprises in Under-developed Countries”, which was prepared by a member of the panel, was published in the first issue of the *Bulletin on Industrialization and Productivity*.

⁸ *Official Records of the Economic and Social Council, Twenty-fifth Session, Annexes, agenda item 5.*

⁹ United Nations publication, Sales No. : 1957.IV.3.

¹⁰ United Nations publication, Sales No. : 59.IV.2.

¹¹ The seminar was organized by the United Nations Technical Assistance Administration, the Economic Commission for Asia and the Far East, and the Bureau of Social Affairs in co-operation with the United Nations Educational, Scientific and Cultural Organization and the Government of Japan.

planning; the secretariat of ECAFE submitted a paper on problems of industrial location. The seminar stressed the need for a comprehensive approach to the problems of industrialization and urbanization in which physical planning is co-ordinated with economic, social and administrative planning on a regional scale within a framework of national development.

II. SUBSTANTIVE SERVICING OF TECHNICAL ASSISTANCE OPERATIONS IN INDUSTRY

18. In the period under consideration, the Bureau of Economic Affairs strengthened its supporting activities of technical assistance operations in the field of industry. In order better to utilize its resources, the Bureau concentrated its work on providing servicing in depth for selected technical assistance projects rather than attempting to cover a large number of projects.

19. In recent years, the volume of technical assistance in industry has increased considerably. It is estimated that, in the period 1955 to 1958, while the resources devoted to total technical assistance extended by the United Nations has risen by some 30 per cent, those devoted to assistance in the field of industry have risen by 60 per cent; in 1958, the share of the latter in total expenditure was approximately one-third. In 1958, the Industry Section of the Bureau of Economic Affairs, which is responsible for servicing these operations, reviewed 350 periodic or final reports of experts in the field, 37 draft job descriptions, and 200 fellowship reports and applications, which represented a marked increase over the total of the previous year.

III. MEETING OF THE ADVISORY COMMITTEE ON THE WORK PROGRAMME ON INDUSTRIALIZATION

20. In accordance with resolution 674 A (XXV), the Secretary-General appointed, in consultation with Governments, ten experts with particular experience in problems of economic and industrial development, to the Advisory Committee on the Work Programme on Industrialization. The Committee met at United Nations Headquarters from 4 to 14 February 1959.

21. To facilitate the discussion, the Secretariat submitted to the Committee the relevant resolutions of the Economic and Social Council (resolutions 560 (XIX), 597 A (XXI), 618 (XXII), 649 A (XXIII) and 674 A (XXV)) and of the General Assembly (resolution 1033 B (XI)), the reports of the Secretary-General to the Council concerning the question of industrialization (E/2816,¹² E/2832,¹² E/2895,¹³ E/2958,¹⁴ E/3078,¹⁵ and E/3079¹⁵), and the studies and reports on industrialization already published by the Secretariat under its programme of work, namely, the first issue of the *Bulletin of Industrialization and Productivity*¹⁶ and the publication entitled *Management of Industrial Enterprises in Under-developed Countries*.¹⁷ The Secretariat also submitted to the Committee studies and reports which it had recently completed¹⁸ and a certain number of working papers which it had prepared for the Committee.

¹² Official Records of the Economic and Social Council, Twenty-first Session, Annexes, agenda item 5.

¹³ Ibid., Twenty-second Session, Annexes, agenda item 4.

¹⁴ Ibid., Twenty-third Session, Annexes, agenda item 5.

¹⁵ Ibid., Twenty-fifth Session, Annexes, agenda item 5.

¹⁶ United Nations publication, Sales No.: 58.II.B.2.

¹⁷ United Nations publication, Sales No.: 58.II.B.5.

¹⁸ Published in the second issue of the *Bulletin on Industrialization and Productivity* and to be published in the third issue.

22. The working papers contained: (a) information on recent and current work relating to industrialization carried out by the Department of Economic and Social Affairs and in the regional economic commissions, and by certain United Nations agencies; and an outline of United Nations technical assistance in the field of industrial development; (b) the views of the Secretariat on the further development of the programme of work in the economic, financial, social and demographic fields, on strengthening the supporting services in industry relating to operations under the United Nations technical assistance programmes and to operations of the Special Fund; and the views of the Secretariat on the implementation of the programme, with special reference to methods of work.

23. In the light of the discussions at recent sessions of the General Assembly and the Council and of the experience gained by the Secretariat in the execution of the programme, the Secretariat proposed to concentrate its continuous long-term work in the economic field on problems of planning, development, structure and operation of the industrial sector, including small-scale industries—an area within which all of the research work carried out so far by the Bureau of Economic Affairs had been situated. The research projects in the economic field proposed by the Secretariat were presented under four main groups: (a) programming and planning of industrial development and the related problems of provision of incentives to promote industrial development in the private sector; (b) provision of external economies and the related problem of government assistance in the creation of industrial nuclei; (c) studies of a micro-economic type—based on data derived from actual industrial practice—of problems in economics of industry; (d) special problems of small-scale industries.¹⁹ In addition, the Bureau of Economic Affairs proposed to engage in *ad hoc* projects over and above the continuing programme, which would involve, among others, activities in connexion with technical assistance and Special Fund operations in industry, assistance, as required, to the secretariat of the newly established Economic Commission for Africa, special projects requested by the Assembly or the Council and studies in depth of individual industries.

24. The Committee adopted the working papers submitted by the Secretariat as a basis for its debates, which led to a report containing the Committee's recommendations to the Secretary-General. As stated by the Committee in its report: "As a whole, the recommended programme derives from the existing one and is based on proposals of the Secretariat as amended and amplified by the Committee. In addition to proposing new projects, the Committee attempted to put some issues into both a broader perspective and a sharper focus." (E/3213, para. 19.)

25. In the report, the Committee expressed the view that the research which had so far been carried out had been of interest for the less developed countries, both in its nature and orientation. It made several recommendations concerning the general orientation of the proposed programme, among them that studies on industrialization should provide Governments of under-developed countries with a basis for practical action to promote general economic development; that an even closer relationship should be established between projects under the programme and United Nations technical assistance and Special Fund activities; that the research work of the Secretariat, which had so far largely con-

¹⁹ These groups broadly correspond to some of the areas of work outlined in documents E/2832 and E/2895.

centrated on the micro-economic aspects of industry, should give more emphasis to studies of a macro-economic nature; and that systematic work relating to general development policies and techniques of programming economic development would greatly enhance the overall effectiveness of the research activities in the field of industrialization.

26. As regards work in connexion with technical assistance operations the Committee recommended that, in addition to substantive servicing, the Secretariat should collect and analyse information on the experience gained from technical assistance programmes relating to industry carried out by various governmental and non-governmental agencies.

27. Concerning research activities, the Committee recommended undertaking projects in certain broad areas of work. In the field of over-all planning and programming of industrial development, it recommended studies of government incentives to the private sector for "steering" investment decisions of that sector in line with government policy objectives; and studies on co-ordination, in the case of mixed economies, between macro-economic targets and their fulfilment in the form of individual projects. The Committee considered that forecasts of demand for selected industrial products, using macro-economic approaches as well as market research methods, would be valuable for development planning. It also recommended studies of more specific incentives and of national and international measures of assistance to industry such as the establishment of industrial zones, or estates, for attracting and developing industry in given areas, and the supply of equipment and related requisites for new industries.

28. In the field of small-scale industries, the Committee recommended projects on measures to facilitate the solution of the financial, technological and organizational problems specific to these industries, and to improve relationships between large and small industries, particularly by means of subcontracting arrangements.

29. The Committee also considered that specific industry studies involving micro-economic analysis, such as have been undertaken by the Secretariat on problems of capital intensity and size of plant should be continued with a view to developing a methodology to be used in studying various problems in the economics of industry.

30. The report also includes recommendations for studies of institutions to promote industrial development, and of industrialization problems in individual countries. It concludes with recommendations concerning the implementation of the programme, with special reference to methods of work.

IV. CO-OPERATION WITH THE REGIONAL COMMISSIONS AND THE SPECIALIZED AGENCIES

31. The close association with the regional economic commissions in the carrying out of the Headquarters programme of work has been noted at various points in the report. At the same time, the programme has been carried out with due regard to the work of the specialized agencies in the field of industrialization and productivity. Articles for the *Bulletin on Industrialization and Productivity* were contributed by officials of certain specialized agencies. Some projects have involved the co-operation of specialized agencies. Consultations were held with the agencies principally concerned prior to the convening of the Advisory Committee of Experts this year, and arrangements were made for the attendance of the Economic Adviser of ILO and an official of the International Bank for Reconstruction and Development at that meeting.

V. ORGANIZATIONAL ARRANGEMENTS

32. In view of its accrued responsibilities under the programme of work in industrialization, the Industry Section has recently been given the status of a branch of the Bureau of Economic Affairs and is being organized in two sections, the activities of which are mutually supporting:

(a) A Research Section, which will be in charge of the preparation of studies under the research programme, will organize and prepare background documentation for meetings of experts, seminars and symposia. It will be responsible for issuing the *Bulletin on Industrialization and Productivity*, which is the main vehicle for dissemination of the results of the various projects carried out under the work programme.

(b) An Operations Section which will engage in the substantive support of operations in the industry field carried out under the United Nations programme of technical assistance and the Special Fund.

In addition, a Reference Centre for Economic Development Programmes, attached to the Branch, has recently been established. It is intended to be of service to the Department of Economic and Social Affairs as well as to the Technical Assistance Board and the Special Fund.

33. Considerable difficulties in the recruitment of additional staff — which the Council approved in resolution 674 A (XXV) — have been experienced in the period under consideration. A major effort is being undertaken to activate recruitment. It is envisaged that the implementation of the programme will require to an increasing extent the employment of consultants.

DOCUMENT E/3237

Report of the Economic Committee

[Original text: English]
[17 April 1959]

1. The Economic Committee, under the chairmanship of the First Vice-President of the Council, Mr. Jerzy Michalowski (Poland), considered at its 256th to 261st meetings (E/AC.6/SR.256 to 261), held on 14, 15, 16 and 17 April 1959, item 5 of the Council's agenda, entitled "Economic development of under-developed countries: (a) Industrialization; (b) Land reform; (c) Sources of energy", which had been referred to it by the Council at its 1056th meeting (E/SR.1056) held on 13 April 1959.

2. The Committee had before it the following documents: E/3203, E/3208, E/3212 and Add.1, E/3213 and Add.1 and 2, E/3218, and E/3219.

3. It also received the following draft resolutions: Under item 5 (a):

(i) A draft resolution submitted by Afghanistan, France, the Netherlands, New Zealand, the Sudan, the United Kingdom of Great Britain and Northern Ireland,

the United States of America and Venezuela, entitled "Industrialization and energy" (E/AC.6/L.233);

(ii) A draft resolution submitted by Chile, the Sudan and the United Kingdom of Great Britain and Northern Ireland, entitled "Sources of energy" (E/AC.6/L.234/Rev.1);¹

(iii) A draft resolution submitted by Afghanistan and Bulgaria, entitled "Industrialization and sources of energy" (E/AC.6/L.235);

(iv) A draft resolution submitted by Afghanistan, Costa Rica, Mexico, Pakistan and the United States of America, entitled "Industrialization" (E/AC.6/L.236/Rev.1);

(v) A draft resolution submitted by Costa Rica, France and the United States of America, entitled "Industrialization and energy" (E/AC.6/L.237);

Under item 5 (b):

A draft resolution submitted by China, Mexico and New Zealand, entitled "Land reform" (E/AC.6/L.231/Rev.1);

Under item 5 (c):

(i) A draft resolution submitted by Chile, France, Mexico, the Netherlands and Spain, entitled "Sources of energy" (E/AC.6/L.230/Rev.1); a financial statement (E/AC.6/L.230/Rev.1/Add.1); an amendment by the United Kingdom of Great Britain and Northern Ireland (E/AC.6/L.238) to the above-mentioned draft resolution. This amendment was withdrawn at the 261st meeting;

(ii) A draft resolution submitted by Chile, France, Mexico, New Zealand, Pakistan and the United Kingdom of Great Britain and Northern Ireland, entitled "Sources of energy" (E/AC.6/L.232/Rev.1).

4. These draft resolutions were voted upon by the Committee as follows:

Draft resolution E/AC.6/L.233 (I A below) was adopted unanimously;

Draft resolution E/AC.6/L.234/Rev.1 (I B below) was adopted by 12 votes to none, with 6 abstentions;

Draft resolution E/AC.6/L.235: the first paragraph of the preamble and operative paragraphs 1 and 2 were voted upon separately at the request of the representative of the Sudan. The first paragraph of the preamble was adopted by 7 votes to none, with 11 abstentions; the result of the vote on operative paragraph 1 was 5 in favour and 5 against, with 8 abstentions; operative paragraph 2 was adopted by 6 votes to 5, with 8 abstentions. The draft resolution as a whole was rejected by 6 votes to 5, with 7 abstentions;

Draft resolution E/AC.6/L.236/Rev.1 (I C below): operative paragraph 5, voted upon separately at the request of the representative of the USSR, was adopted by 15 votes to none, with 3 abstentions. The draft resolution as a whole was adopted unanimously;

Draft resolution E/AC.6/L.237 (I D below): the first paragraph of the preamble and operative paragraph 1 were voted upon separately at the request of the representative of Afghanistan. The representative of Costa Rica further requested a roll-call on these separate votes of the draft resolutions as a whole. The first paragraph of the preamble was adopted by 9 votes to none, with 9 abstentions; operative paragraph 1 was adopted by 11 votes to none, with 7 abstentions. The draft resolution as a whole was adopted by 13 votes to none, with 5 abstentions;

Draft resolution E/AC.6/L.231/Rev.1 (II below) was adopted by 13 votes to none, with 5 abstentions;

Draft resolution E/AC.6/L.230/Rev.1 (III A below): operative paragraph 2, voted upon separately at the

request of the representatives of New Zealand and the United Kingdom, was adopted by 14 votes to none, with 4 abstentions. The draft resolution as a whole was adopted unanimously;

Draft resolution E/AC.6/L.232/Rev.1 (III B below) was adopted unanimously.

5. The Committee, therefore, recommends for adoption by the Council the following draft resolutions:

DRAFT RESOLUTION I

A

[Text adopted by the Council without change. See resolution 711 A (XXVII) below.]

B

[Text adopted by the Council without change. See resolution 711 B (XXVII) below.]

C

[Text adopted by the Council without change. See resolution 709 A (XXVII) below.]

D

[Text adopted by the Council without change. See resolution 709 B (XXVII) below.]

DRAFT RESOLUTION II

[Text adopted by the Council without change. See resolution 712 (XXVII) below.]

DRAFT RESOLUTION III

A

[Text adopted by the Council without change. See resolution 710 A (XXVII) below.]

B²

The Economic and Social Council,

Having examined the report by the Secretary-General entitled "Work done and recommendations concerning energy development" (E/3212 and Add.1),

Taking into account the experience gained in this field through the different technical assistance activities and the works so far published on the different sources of energy and their utilization,

Reaffirming the importance it attaches to energy resources in all forms, both conventional and non-conventional, as an essential factor of economic development, especially in the under-developed countries,

Considering that the economic aspects of energy problems have sometimes not been sufficiently taken into account in research and other work undertaken in this field and that, as a result, certain gaps exist, especially with regard to the evaluation of energy resources and the cost of their exploitation,

Recognizing that the appraisal of economical available energy resources in an under-developed country is a very important factor in its economic development,

¹ At its 260th meeting, the Committee decided to consider this draft resolution under item 5 (a).

² At its 1060th meeting, the Council adopted draft resolution III B with the amendment submitted by the United States of America (E/L.826).

Taking into account resolution . . . ,³

1. *Takes note* of the Secretary-General's report, which represents a useful inventory of the activities of the United Nations and other international organizations in the field of energy ;

2. *Requests* the Secretary-General to develop a methodology for the appraisal of energy resources on a usefully comparable basis on the national, regional or other appropriate level ;

3. *Invites* the Governments of Member States to

³ See the text of draft resolution I A.

provide the Secretary-General, at his request, with such information as may be required for developing this methodology ;

4. *Further requests* the Secretary-General to arrange, at the request of the Governments of interested Member States, for the preparation of seminars at the regional or other appropriate level to be held in order to promote better understanding of the economic problems connected with the development of energy resources in under-developed countries, taking into account the work done by governmental, inter-governmental and non-governmental organizations and institutions.

DOCUMENT E/L.826

United States of America : amendment to draft resolution III B submitted by the Economic Committee (E/3237)

[Original text : English and French]

[17 April 1959]

Add to draft resolution III B submitted by the Economic Committee (E/3237, para. 5) the following paragraph :

"5. *Decides* that experts from scientific institutions and interested sectors of industry in participating countries may, at the request of their Governments, take part in such seminars."

RESOLUTION ADOPTED BY THE ECONOMIC AND SOCIAL COUNCIL

709 (XXVII). Economic development of under-developed countries : industrialization

A

The Economic and Social Council,

Recalling its resolutions 597 A (XXI) of 4 May 1956, 618 (XXII) of 6 August 1956, 649 A (XXIII) of 2 May 1957 and 674 A (XXV) of 1 May 1958, and General Assembly resolution 1033 B (XI) of 26 February 1957 regarding the programme of work in the field of industrialization and productivity,

Having considered the report (E/3219) presented by the Secretary-General under resolution 597 A (XXI), the report of the Advisory Committee on the Work Programme on Industrialization to the Secretary-General (E/3213 and Add.1 and 2), prepared in pursuance of resolution 674 A (XXV), the report entitled *Management of Industrial Enterprises in Under-developed Countries*¹ and other related material,

Recognizing that instability in the foreign exchange earnings of the less developed countries, due to fluctuations in world commodity prices and in general economic activity in the more advanced countries, makes it particularly important to encourage industrialization as an essential part of development programmes or plans,

Emphasizing the need of the less developed countries, large and small, for practical guidance on industrial development,

1. *Commends* the Secretary-General on the work carried out so far on the industrialization programme ;

2. *Notes with appreciation* the report and recommendations of the Advisory Committee on the Work Programme on Industrialization, convened by the Secretary-General, with regard to further development of the work programme and its implementation ;

3. *Requests* the Secretary-General to prepare, in the light of the five-year programmes to be discussed at the twenty-eighth session of the Council, proposals for future work on industrialization for consideration by the Council at its twenty-ninth session, with a view to further discussion by the Council of priorities in the work programme ;

4. *Requests* the Secretary-General to give due emphasis in this programme to studies relating to methods of programming or planning of industrialization, bearing in mind that such studies would provide a basis for technical assistance given to Governments in this field, and having regard to the work undertaken by the regional economic commissions ;

5. *Requests* the Secretary-General, meanwhile, to lay particular emphasis on projects of direct practical value to economic development — e.g., projects concerning small industries, industrial zones and estates, management techniques, and technological research institutes ;

6. *Welcomes* the action of the Secretary-General in raising the status of the Secretariat's Industry Section to that of a Branch of the Bureau of Economic Affairs and urges him to consider strengthening further the organization and the work programme of the United Nations in the field of industrialization and also supports the use of consultants either individually or as an advisory group ;

¹ United Nations publication. Sales No. : 58.II.B.5.

7. *Emphasizes* the desirability of encouraging, nationally and regionally, the organization of seminars, consultations and training centres for the practical implementation of the results of research and studies already carried out under the programme and to be carried out in the future ;

8. *Invites* the regional economic commissions to consider the inclusion in their work programmes of seminars and symposia on specific topics designed to further the purposes of the industrialization programme of the United Nations ;

9. *Recommends* that a closer relationship should be established between the industrialization programme and the activities of the Expanded Programme of Technical Assistance and the Special Fund ;

10. *Expresses* the desirability of continuing, and where necessary further extending, co-operation between the Secretary-General and the specialized agencies in the field of industrialization ;

11. *Urges* the Secretary-General to adopt appropriate measures for the widest possible dissemination of studies and reports carried out under the industrialization programme, including the *Bulletin on Industrialization and Productivity*.

1060th plenary meeting,
17 April 1959.

B

The Economic and Social Council,

Considering :

(a) That joint action by groups of countries united by geographic, historical and cultural bonds and striving for their gradual economic integration is an important factor in the development of under-developed areas, in that it permits of more rational exploitation of their resources and the formation of markets adequate for the needs of their own development,

(b) That in every effort of economic development, whether at the national or at the regional level, it is important to maintain a high import capacity ; and that many of the under-developed countries now encounter or will in the near future encounter serious difficulties in maintaining that capacity by reason of the saturation of their traditional export markets,

(c) That those countries should seize every opportunity to diversify their exports, as a means of continuing and intensifying their economic development on the basis of regional co-operation,

1. *Notes with satisfaction* the efforts which certain groups of under-developed countries are making to bring about their progressive economic integration and the gradual diversification of their economic activities ;

2. *Recognizes* the valuable co-operation which the United Nations, through the Council's regional economic commissions, and the specialized agencies are lending to the countries seeking these objectives ;

3. *Recommends* to the afore-mentioned organizations that they assign a high priority, in the elaboration of their programmes of work, to the assistance needed by countries seeking to diversify their exports, especially where efforts to that end are undertaken jointly by the public and private sectors of industry.

1060th plenary meeting,
17 April 1959.

710 (XXVII). Economic development of under-developed countries: sources of energy

A

The Economic and Social Council,

Having considered the report of the Secretary-General entitled "Recent developments relating to new sources of energy and recommendations regarding the agenda for an international conference" (E/3218),

Reaffirming the importance which it attaches to non-conventional energy sources, as a useful factor for the economic development of many under-developed countries,

Noting the progress made in the field of practical application of solar energy, wind power and geothermic energy,

Considering that the development of research in the field of utilization of these sources of energy has reached a stage at which the pooling of the results achieved can, through the international conference referred to in Council resolution 653 (XXIV) of 26 July 1957, yield especially interesting results for areas which have a shortage of so-called conventional energy sources,

1. *Commends* the Secretary-General for his report ;
2. *Requests* the Secretary-General to take appropriate measures for the holding of a United Nations conference on solar energy, wind power and geothermic energy, considered particularly from the point of view of their application, to be held within the programme of the United Nations, if possible in 1961 but not later than 1962, on the basis of the agenda suggested in the report (E/3218, part I), taking into account any clarifications or modifications which the Governments of Member States and the specialized agencies concerned may wish to bring to the Secretary-General's attention, or such modifications as may seem advisable after the meeting of experts mentioned in paragraph 3 below ;
3. *Requests in particular* the Secretary-General to convene, in consultation with the interested Governments and the specialized agencies concerned, not later than the last quarter of 1960, preliminary meetings of experts for the purpose of exchanging information on research undertaken and results obtained in the application of these new energy sources, in particular geothermic energy and solar energy, the reports of which would be transmitted to the conference ;
4. *Invites* the Secretary-General to report to the Council, not later than at its thirtieth session, on the action taken under this resolution.

1060th plenary meeting,
17 April 1959.

B

The Economic and Social Council,

Having examined the report of the Secretary-General entitled "Work done and recommendations concerning energy development" (E/3212 and Add.1),

Taking into account the experience gained in this field through the different technical assistance activities and the works so far published on the different sources of energy and their utilization,

Reaffirming the importance it attaches to energy resources in all forms, both conventional and non-conventional, as an essential factor of economic development, especially in the under-developed countries,

Considering that the economic aspects of energy problems have sometimes not been sufficiently taken into account in research and other work undertaken in this field and that, as a result, certain gaps exist, especially with regard to the evaluation of energy resources and the cost of their exploitation,

Recognizing that the appraisal of economically available energy resources in an under-developed country is a very important factor in its economic development,

Taking into account its resolution 711 A (XXVII) of 17 April 1959,

1. *Takes note* of the Secretary-General's report, which represents a useful inventory of the activities of the United Nations and other international organizations in the field of energy ;

2. *Request* the Secretary-General to develop a methodology for the appraisal of energy resources on a usefully comparable basis at the national, regional or other appropriate level ;

3. *Invites* the Governments of Member States to provide the Secretary-General, at his request, with such information as may be required for developing this methodology ;

4. *Further requests* the Secretary-General to arrange, at the request of the Governments of interested Member States, for the preparation of seminars at the regional or other appropriate level to be held in order to promote better understanding of the economic problems connected with the development of energy resources in under-developed countries, taking into account the work done by governmental, inter-governmental and non-governmental organizations and institutions ;

5. *Decides* that experts from scientific institutions and interested sectors of industry in participating countries may, at the request of their Governments, take part in such seminars.

*1060th plenary meeting,
17 April 1959.*

711 (XXVII). Economic development of under-developed countries: industrialization and energy

A

The Economic and Social Council,

Having examined the report of the Secretary-General entitled "Work done and recommendations concerning energy development" (E/3212 and Add.1), the report of the Advisory Committee on the Work Programme on Industrialization (E/3213 and Add.1 and 2) and the progress report by the Secretary-General on implementation of the work programme on industrialization (E/3219),

Requests the Secretary-General to report to the Economic and Social Council at its twenty-eighth session on the feasibility and potential usefulness of collecting, analysing and disseminating the experience obtained in multilateral, regional, bilateral and national technical assistance projects and related activities in the field of industrialization and energy resources.

*1060th plenary meeting,
17 April 1959.*

B

The Economic and Social Council,

Recalling General Assembly resolution 1319 (XIII) of 12 December 1958,

Taking note of the report of the Symposium on the Development of Petroleum Resources of Asia and the Far East² referred to therein,

Believing that the Symposium has shown the value to Governments of exchanging information at the technical level concerning the development of their petroleum resources,

Believing further that the United Nations, certain specialized agencies and their technical assistance programmes should continue to take concrete measures to assist Governments interested in obtaining advice concerning the effective and rational development of their petroleum resources,

Considering that the problems discussed and the conclusions arrived at during the above-mentioned Symposium have underlined the need for increased study of petroleum questions as an important factor in the economic development of the under-developed countries,

Bearing in mind that many under-developed countries are interested in the prospecting for and exploitation of petroleum and in obtaining and manufacturing the necessary equipment,

Noting that, while the specific studies and recommendations of the report of the Symposium are of interest primarily to countries in the area of the Economic Commission for Asia and the Far East, the method of preparing and conducting the Symposium is of more general interest,

Transmits the Report of the Symposium on the Development of Petroleum Resources of Asia and the Far East and the relevant records of the twenty-seventh session to the regional economic commissions.

*1060th plenary meeting,
17 April 1959.*

712 (XXVII). Economic development of under-developed countries: land reform

The Economic and Social Council,

Having examined the progress report on work undertaken for the advancement of land reform (E/3208) and the prospectus of a report for submission to the Council in 1962 as contained therein, prepared by the Secretary-General pursuant to Council resolution 649 B (XXIII) of 2 May 1957,

Recalling its resolutions 370 (XIII) of 7 September 1951, 512 C I (XVII) of 30 April 1954 and 649 B (XXIII) of 2 May 1957, and General Assembly resolutions 401 (V) of 20 November 1950, 524 (VI) of 12 January 1952, 625 A (VII) of 21 December 1952 and 826 (IX) of 11 December 1954 on land reform,

Noting with satisfaction the progress that has been made in the implementation of the above-mentioned resolutions in a number of countries,

Recognizing the importance of continuous study of land tenure and use,

1. *Urges* States Members of the United Nations and members of the specialized agencies to continue to implement, as appropriate, Council and General Assembly resolutions on land reform ;

2. *Commends* the Secretary-General and the specialized agencies concerned for activities undertaken for the advancement of land reform as summarized in the above-mentioned report ;

² United Nations publication, Sales No. : 59.II.F.3, part one.

3. *Requests* the Secretary-General, in co-operation with the specialized agencies concerned, especially the Food and Agriculture Organization of the United Nations, to prepare the report on the progress of land reform for the Council in 1962 along the lines of the prospectus contained in paragraph 57 of the report submitted at the present session (E/3208), taking into consideration the sources of information listed in paragraphs 59 and 60 of the report and the views which Members may express in the Council and the General Assembly;

4. *Invites* States Members of the United Nations and members of the specialized agencies to supply the Secretary-General and the specialized agencies concerned, at

their request, with material which may be needed in the preparation of the report;

5. *Recommends* States Members of the United Nations and members of the specialized agencies to consider the establishment, where appropriate, of regional research and training centres to assist with the continuous study of land tenure and use;

6. *Invites* the Food and Agriculture Organization of the United Nations and other competent international agencies to co-operate with such members in the work of those centres.

1060th plenary meeting,
17 April 1959.

CHECK LIST OF DOCUMENTS

Note. This check list includes the documents mentioned during the consideration of agenda item 5 which are not reproduced in the present fascicle.

Document No.	Title	Observations and references
E/3203	Report of the Symposium on the Development of the Symposium on the Development of Petroleum Resources of Asia and the Far East	United Nations publication, Sales No.: 59.II.F.3, part one
E/AC.6/L.230	Sources of energy — Chile, France, Mexico, Netherlands and Spain: draft resolution	Replaced by E/AC.6/L.230/Rev.1
E/AC.6/L.230/Add.1	Financial implications of the draft resolution contained in document E/AC.6/L.230: note by the Secretary-General	Replaced by E/AC.6/L.230/Rev.1/Add.1
E/AC.6/L.230/Rev.1	Sources of energy — Chile, France, Mexico, Netherlands and Spain: revised draft resolution	Adopted without change. See E/3237, annex, draft resolution III A
E/AC.6/L.230/Rev.1/Add.1	Financial implications of the revised draft resolution contained in document E/AC.6/L.230/Rev.1: note by the Secretary-General	Mimeographed
E/AC.6/L.231 and Corr.1	Land reform — China, Mexico and New Zealand: draft resolution	Replaced by E/AC.6/L.231/Rev.1
E/AC.6/L.231/Rev.1	Land reform — China, Mexico and New Zealand: revised draft resolution	Adopted without change. See E/3237, annex, draft resolution II
E/AC.6/L.232	Sources of energy — Chile, France, Mexico, New Zealand, Pakistan and United Kingdom of Great Britain and Northern Ireland: draft resolution	Replaced by E/AC.6/L.232/Rev.1
E/AC.6/L.232/Rev.1	Sources of energy — Chile, France, Mexico, New Zealand, Pakistan and United Kingdom of Great Britain and Northern Ireland: revised draft resolution	Adopted without change. See E/3237, annex, draft resolution III B
E/AC.6/L.233	Industrialization and energy — Afghanistan, France, Netherlands, New Zealand, Sudan, United Kingdom of Great Britain and Northern Ireland, United States of America and Venezuela: draft resolution	<i>Idem</i> , draft resolution I A
E/AC.6/L.234 and Add.1	Sources of energy — Chile, Sudan and United Kingdom of Great Britain and Northern Ireland: draft resolution	Replaced by E/AC.6/L.234/Rev.1
E/AC.6/L.234/Rev.1	Sources of energy — Chile, Sudan and United Kingdom of Great Britain and Northern Ireland: revised draft resolution	Adopted without change. See E/3237, annex, draft resolution I B
E/AC.6/L.235	Industrialization and sources of energy — Afghanistan and Bulgaria: draft resolution	Mimeographed
E/AC.6/L.236	Industrialization — Afghanistan, Costa Rica, Pakistan, Mexico and United States of America: draft resolution	Replaced by E/AC.6/L.236/Rev.1
E/AC.6/L.236/Add.1	Financial implications of the draft resolution contained in document E/AC.6/L.236: note by the Secretary-General	Mimeographed
E/AC.6/L.236/Rev.1	Industrialization — Afghanistan, Costa Rica, Pakistan, Mexico and United States of America: revised draft resolution	Adopted without change. See E/3237, annex, draft resolution I C
E/AC.6/L.237	Industrialization and energy — Costa Rica, France and United States of America: draft resolution	<i>Idem</i> , draft resolution I D

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/AC.6/L.238	Sources of energy—United Kingdom of Great Britain and Northern Ireland: amendment to document E/AC.6/L.230	Mimeographed
E/AC.6/L.239	Industrialization—France: amendment to document E/AC.6/L.236	Ditto
E/C.2/521	World economic problems: communication dated 14 April 1959 from the International Confederation of Free Trade Unions	Ditto
E/CN.11/L.61	Report of the Working Party on Economic Development and Planning (fourth session) to the Economic Commission for Asia and the Far East (fifteenth session)	Ditto



Agenda item 6 : International co-operation on cartography *

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DOCUMENTS E/3209 and Add.1-4**Report of the Secretary-General***Document E/3209*

[Original text : English, French and Spanish]
[16 February 1959]

INTRODUCTION

1. The present report deals with progress made in implementing resolution 600 (XXI) of the Economic and Social Council with respect to the following subjects: the Second United Nations Regional Cartographic Conference for Asia and the Far East; the draft programme for achieving international uniformity in the writing of geographical names; amendments to the existing specifications of the International Map of the World on the Millionth Scale (IMW).

Section I

**SECOND UNITED NATIONS REGIONAL CARTOGRAPHIC
CONFERENCE FOR ASIA AND THE FAR EAST**

2. On 4 April 1958 the Secretary-General sent to all Governments of States Members of the United Nations or members of the specialized agencies an invitation to attend the Second United Nations Regional Cartographic Conference for Asia and the Far East, together with a provisional agenda (E/CONF.25/1) prepared on the basis of proposals submitted by Governments.

3. The Conference was held at Tokyo, Japan, from 20 October to 1 November 1958. Twenty-eight Governments were represented and five international scientific

organizations sent observers. Most of the participants were heads of national cartographic services or senior technical officers. In comparison with the first United Nations Regional Cartographic Conference for Asia and the Far East, held at Mussoorie, India, in 1955, it may be of interest to note that the number of participating countries increased from eighteen to twenty-eight, the total of participants from sixty-six to ninety-five and the number of technical and background documents from twenty-five to eighty.

4. The official records of the Conference are being issued in two volumes: volume 1¹ containing the report of the Conference, and volume 2² the proceedings of the plenary meetings, background documents, technical papers and related information.

5. The Conference stressed the need for suitable cartographic methods and techniques as well as up-to-date information thereon to meet the urgent requirements of the region, and adopted thirty-five resolutions embodying conclusions as well as recommendations to Governments of the region, their cartographic services or international organizations, including the United Nations. The following gives a brief account of the conclusions of the Conference involving action by the United Nations:

*Third United Nations regional cartographic conference
for Asia and the Far East*

6. The Conference, believing that the reports presented to it and the deliberations which followed were of utmost importance and that they provided valuable information for a better approach to the cartographic problems of the region, recommended to the Economic and Social Council

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session, 1063rd, 1064th and 1066th meetings.*

¹ United Nations publication, Sales No. : 59.I.9.

² E/CONF.25/4.

to convene the next United Nations regional cartographic conference for Asia and the Far East not later than 1961.³

Development of general specifications for activities concerning resources inventory maps

7. The Conference recognized the urgent need for international co-operation in the field of natural resource inventory mapping for planning economic development and recommended to the United Nations, in consultation with appropriate national agencies and international organizations, to develop general specifications for activities concerning resources inventory maps and maps for existing land use.⁴

Dissemination of information on new techniques

8. On the basis of the apparent advantages to be gained by the application of recently developed techniques for map and chart production and reproduction, the Conference recommended that full information on these valuable techniques be made available to all interested cartographic agencies and, if required, through the United Nations Secretariat as a clearing-house for technical bulletins and other related material readily available. In particular, it recommended that the information submitted to the Conference be disseminated by the United Nations as widely as possible.⁵

Organization of regional machinery

9. The Conference expressed the hope that at its fifteenth session, to be held in Australia in 1959, the Economic Commission for Asia and the Far East would study the possibility of taking concrete steps for organizing regional inter-governmental channels of co-operation in the field of cartography, including the establishment of an appropriate regional machinery.⁶

International uniformity in the writing of geographical names and amendments to the existing specifications of the International Map of the World on the Millionth Scale.

10. The findings of the Conference with regard to these two questions will be discussed respectively in sections II and III of this report.

Section II

DRAFT PROGRAMME FOR ACHIEVING INTERNATIONAL UNIFORMITY IN THE WRITING OF GEOGRAPHICAL NAMES

11. On 26 June 1958, the Secretary-General submitted a paper entitled "Draft programme for achieving international uniformity in the writing of geographical names" to Governments of States Members of the United Nations or members of the specialized agencies for their comments. The full text of the paper is reproduced below :

DRAFT PROGRAMME FOR ACHIEVING INTERNATIONAL UNIFORMITY IN THE WRITING OF GEOGRAPHICAL NAMES

Introduction

The present paper is prepared in pursuance of paragraph 4 (a) of resolution 600 (XXI) of the Economic and Social Council, which reads as follows :

³ See United Nations publication, Sales No.: 59.I.9, p. 7, resolution 2.

⁴ *Idem*, p. 12, resolution 28.

⁵ *Idem*, p. 10, resolution 21 and p. 13, resolution 34.

⁶ *Idem*, p. 7, resolution 1.

"The Economic and Social Council,

"...

"4. Requests the Secretary-General :

"(a) To draft, in co-operation with interested international organizations and such experts as he may wish to consult within the limits of budgetary availability, the general framework of a programme looking towards maximum international uniformity in the writing of geographical names, to submit it to Governments of States Members of the United Nations or members of the specialized agencies for their comments, and to report to the Council at a subsequent session."

In the preparation of this document, the debates in the Council have been taken into account, together with the report of the Secretary-General of 2 February 1956 on international co-operation on cartography (E/2823) which contained views expressed by Governments and the deliberations of regional inter-governmental cartographic conferences regarding this subject. Consultations were held with several experts in this field. A report by one of these experts is reproduced, for purposes of information, as an annex.⁷

International uniform standard methods of writing geographical names

The adoption of a uniform standard method of writing geographical names involves two basic questions—namely, the standardization in one form of a geographical name by the country concerned and the adoption of standard methods of transliteration or transcription of the accepted form into other languages. Although the first question is a domestic matter and the concern of the Government itself, appropriate international co-operation in this field could promote common methods and procedures and, subsequently, might facilitate the development of an international uniform method of transliteration or transcription. As to the second question, obviously any issue would involve more than one language group.

(a) *Standardization at the national level*

To achieve standardization of geographical names at the national level, several Governments have set up special bodies to study the problem, to co-ordinate national effort and to make decisions in specific cases. These bodies are also concerned with transliteration of foreign names into their own language for official publications. Moreover, the International Congress of Onomastic Sciences studied the question from the linguistic point of view. A systematic exchange between countries of technical information on the subject—special studies, technical decisions, gazetteers, etc.—should prove helpful. Such an exchange could be arranged either through bilateral arrangements between Governments or through a central clearing centre.

(b) *Adoption of general principles for international standard methods*

With regard to the adoption of international uniform standard methods of transliteration or transcription of geographical names, account must be taken of the work already carried out in this field by national agencies and international organizations in connexion with their geographical studies and cartographic publications. To speed up international uniformity two fundamental problems must be solved at an early stage, and the decisions taken should serve as guiding principles in formulating rules for transliteration or transcription when dealing individually with different languages.

One of these problems is the selection of the element in any particular geographical name by which it can be converted into various systems of writing. This selection may be determined by the sound of the name, its written form, or its meaning. The other problem is the acceptance for international use of a system of writing. Such a system could be based on an existing or new alphabet, or on phonetic symbols.

The above two problems are closely related and should be studied together, taking into account not only present, but also future, needs. It would be useful if Governments,

⁷ For the text of this annex see part A of annex I to the present document.

when commenting on the present draft programme, could make known their views on them, both from a national and an international point of view. The replies received may indicate that the possibility exists of international agreement being reached on these two questions and that fruitful co-operation may be expected in the future in dealing with detailed issues. They may, on the other hand, reveal that further preliminary studies are required before such a possibility can be contemplated. In any event, the information provided by these replies would facilitate the work of the Economic and Social Council in considering the proposal made by the first United Nations Regional Cartographic Conference for Asia and the Far East and the Seventh Panamerican Consultation on Cartography for convening an international conference on geographical names.

(c) *Preparation of international transliteration methods*

The writing systems now in use can be divided generally into two groups: alphabetical and non-alphabetical. In alphabetical writing, the Roman alphabet is used in most European languages. Considerable work has already been done in the romanization of certain non-alphabetical systems.

In view of the numerous systems of writing and their complexities, which no one expert could be expected to master, it would not seem practicable to attempt a solution of the detailed problems of a universal system for the writing of geographical names until a study had first been made of the results already achieved in this regard in the different languages. Small working committees might be set up of representatives of countries using the same system of writing to study common problems and to develop guiding principles for a systematic conversion of the written geographical names. Experts in the other systems of writing and languages involved could be invited to participate in the work. The work of such committees might also deal with detailed questions, including draft rules for international adoption.

It would not be necessary to organize simultaneously committees to deal with all systems of writing. At the first stage, efforts could be concentrated on those systems which are of most general international concern. However, a sufficient number of languages must be studied to ensure that adequate consideration is given to the problems involved. When a sufficient number of these committees have completed their work, it may be found useful to arrange for a small group to review the various experts' reports and make recommendations to the Economic and Social Council.

(d) *International co-ordination and liaison*

International uniformity in writing geographical names, which has to be achieved gradually in accordance with world progress and needs, is obviously a long-range undertaking. Lack of international co-operation in this field would tend to result not only in duplication of work in individual countries, but also in uncoordinated development which would make international uniformity more and more difficult of attainment. The possibility might therefore be considered of arranging for information on work undertaken and achieved to be received at and be made available from some central point.

12. A note (E/CONF.25/L.10 and Add.1 and 2) containing this paper and the replies received up to 10 October 1958 from twelve Governments—Canada, Costa Rica, Iran, Ireland, Luxembourg, Netherlands, New Zealand, Nicaragua, Panama, Spain, United Kingdom, United States of America—was circulated to the Second United Nations Regional Cartographic Conference for Asia and the Far East in connexion with agenda item 13(d) (International standardization of names, spelling and transliteration, and report on progress made in drafting the general framework of a programme looking towards uniformity in the writing of geographic names).

13. The Conference considered the note in conjunction with two papers submitted by the United Kingdom (E/CONF.25/L.12 and Add.1 and Add.1/Corr.1) and the Federal Republic of Germany (E/CONF.25/L.59) on the

subject of the international standardization of names, spelling and transliteration. The Conference recommended for consideration the principles outlined in the Secretary-General's draft programme quoted above as well as in the United Kingdom paper, and suggested in particular that "the most suitable agency for the implementation of international standardization of names, spelling and transliteration is the United Nations acting by way of a parent body composed of national representatives and free to confer with appropriate authorities, official and academic, through subordinate study groups concerned with regional problems".⁸

14. During the period 10 October 1958 to 31 January 1959, eight more replies were received from the following Governments: Belgium, Chile, the Dominican Republic, the Federation of Malaya, Ghana, Israel, Pakistan and the Philippines. A summary-analysis of the views and concrete suggestions contained in the above-mentioned twenty replies is given in the following paragraphs, while the substantive parts of the replies are reproduced in annex I to this report.

Analyses of views

15. With regard to the general principles outlined in the draft programme, the replies received reflect a general recognition of the two basic questions involved in the adoption of a uniform method of writing geographical names, i.e., the standardization of geographical names in one form by the countries concerned, and the selection of standard methods of transliteration or transcription of the accepted form into other languages. The need for extensive exchange of technical information through a central clearing-house was stressed in many instances.

16. With regard to co-ordination at the national level, many countries supplied information on the measures taken or work done in their countries in handling geographical names.

17. As the basic element for international standardization, the United Kingdom is in favour of adopting the written form, while the Federation of Malaya is inclined to adopt meaning as the criterion for transliteration. With regard to systems of transliteration into the Roman alphabet, the Permanent Committee on Geographical Names of the United Kingdom and the United States Board on Geographic Names, which have published rules for official use in their respective countries, have already reached agreement on a number of points. The official Survey of Israel uses a system derived from the RGS-II system which was developed by the Royal Geographical Society. Pakistan has adopted the Hunterian system, while Iran supports the system recently adopted by its geographic service.

18. It was suggested that experts in systems of writing and in languages should first undertake the work of preparing the rules of transliteration.

19. Several Governments specifically indicated that they were in general agreement with the Secretary-General's draft programme reproduced above.

Listing of suggestions

20. The suggestions for action by the United Nations can be summarized in the following headings:

(a) That the United Nations establish a central international body which might be called the "international committee on geographical names".⁹

⁸ See United Nations publication, Sale No.: 59.I.9, p. 12, resolution 32.

⁹ For detailed functions and programme, see annex I, part B, section 16.

(b) That the United Nations provide encouragement and guidance to those nations which have no national organization for the standardization and co-ordination of geographical names to establish such an organization and to produce national gazetteers at an early date.

(c) That the United Nations sponsor, within the limits of budgetary availability, conferences of regional working groups representing countries which use the same system of name-writing in order to develop guiding principles for attaining uniformity in domestic name procedures and for the standardization of the methods used in the transliteration of foreign names.

(d) That the Secretariat of the United Nations act as central clearing-house for geographical names carrying out the following functions: (i) the collection of gazetteers and information concerning the technical procedures adopted by Member States for the standardization of domestic names; (ii) the collection of information on the techniques and systems used by Member States in transliterating the geographical names of other countries; and (iii) the dissemination to Member States of all documents and information collected, utilizing existing United Nations periodicals wherever feasible.

Section III

DRAFT PROPOSALS FOR AMENDMENTS TO THE EXISTING SPECIFICATIONS FOR THE PREPARATION AND PUBLICATION OF THE SHEETS OF THE INTERNATIONAL MAP OF THE WORLD ON THE MILLIONTH SCALE

21. On 15 October 1958 the Secretary-General submitted to the Governments of all countries adhering to the conventions on the International Map of the World on the Millionth Scale, for their comments, the following paper:

The present paper is prepared in accordance with paragraph 4 (b) of resolution 600 (XXI) of the Economic and Social Council, which reads as follows:

"(b) To prepare, on the basis of proposals already received, draft amendments to the existing specifications of the International Map of the world on the millionth scale designed to allow the greatest possible flexibility, bearing in mind the need to maintain both the World Aeronautical Chart series of the International Civil Aviation Organization and the International Map, to submit the draft amendments to Governments of Member States concerned for their comments, and to report to the Council at a subsequent session."

This resolution was adopted after consideration of the Secretary-General's report [E/2823] on consultations with responsible national cartographic agencies regarding the revision of the specifications¹⁰ for the International Map of the World on the Millionth Scale (IMW).

In the preparation of this document, account has been taken of the following: (a) the relevant resolutions adopted by: the first United Nations Regional Cartographic Conference for Asia and the Far East, the Seventh General Assembly of the International Geographical Union, the Sixth Pan-American Consultation on Cartography, and the Specialists' Meeting on Maps and Surveys of the Scientific Council for Africa South of the Sahara; (b) the views expressed by national agencies; and (c) two studies made by the Secretariat of the United Nations — one on conformity of the published sheets¹¹ with IMW specifications, and the other on the application of the IMW sheet reference system to other map series.¹²

¹⁰ For the full text of the specifications, see *World Cartography*, vol. IV, 1954 (United Nations publication, Sales No.: 1956.I.9), pp. 33-57.

¹¹ See *International Map of the World on the Millionth Scale, Report for 1957* (United Nations publication, Sales No.: 58.I.11), pp. 2-8.

¹² *Ibid.*, pp. 8-9.

The primary purpose of the revision is to accelerate the publication of the IMW sheets and this cannot be achieved without an international agreement on important issues involved. Agreement has already been reached with regard to the need for flexibility in the application of the specifications, so that "no change in the existing sheets would be required and no country would be prevented to produce this series of maps due to specifications which they could not meet". [E/2823, annex II, B, 1.]

A major part of the land area of the world is already covered by IMW sheets which conform largely to existing specifications. Taking into consideration the sheets now in production, this coverage will be much broader next year. Several countries have reported, however, that in view of the current lack of enough technical facilities to carry out urgent cartographic work required for economic development, they are unable to produce both IMW sheets and the World Aeronautical Chart series (WAC) of the International Civil Aviation Organization (ICAO) following different compilation procedures. The major difficulty is the difference in projections and sheet lines. Two opposite points of view have been expressed:

(1) That IMW projection and sheet lines are mandatory; and

(2) That projection and sheet lines should be shifted from the IMW system to the ICAO WAC system.

Until the time when a definite choice could be made, a tentative intermediary solution may be envisaged to deal with the present situation.

Map projection

At present three projections are being used for international mapping projects on the scale 1:1,000,000: (a) the modified polyconic projection (by IMW); (b) the Lambert conformal conic projection (by WAC); and (c) the universal transverse Mercator projection (by the International Union of Geodesy and Geophysics). In addition, the stereographic polar projection is being envisaged for the proposed international map of Antarctica. As the IMW sheets are designed for assembling only a few sheets on a flat base, the comparison of the various projections from this point of view should be made on the basis of individual sheets. The differences between the above-mentioned projections are for practical purposes very small and, in some cases, hardly noticeable; therefore, the utilization of a comparable projection in place of the modified polyconic projection for IMW sheets would not result in significant discrepancies among the sheets and would enable several countries to publish their topographical sheets on the scale 1:1,000,000 immediately.

Sheet lines

With respect to sheet lines, both the IMW and the WAC series use the four-degree bands starting from the Equator. The differences lie only in the longitudinal limits — in some cases the WAC sheet is larger than the IMW sheet. In view of the fact that an extension of coverage has already been used in several published IMW sheets, a deviation from the standard IMW sheet lines which would enable the agencies concerned to speed up the production of IMW sheets by using the WAC plates could be considered as an extension of existing practice. Nevertheless, in order to maintain the general appearance of the International Map, the IMW sheet reference should be continued.

If these two tentative measures are agreed upon, the inclusion of the following paragraph in the existing specifications is proposed:

"15. Parallel edition.

"In order to meet the present urgent need for topographic maps at the scale 1:1,000,000, a sheet plotted on a projection comparable to the modified polyconic projection or showing slightly different coverage can be issued as a *parallel edition* of the IMW sheets."

Detailed cartographic features

No divergent opinions were expressed on the principle of bringing detailed technical features of the International Map up to date to meet modern methods and present day requirements. A re-drafting of specifications regarding numerous detailed items — including simplified symbols and

lettering— would have to meet the desiderata of all agencies concerned. If the preparation of a revised style sheet is requested, the interested agencies will have to submit to the Secretariat precise proposals to that effect.

22. This paper was also circulated to the Second United Nations Regional Cartographic Conference for Asia and the Far East (E/CONF.25/L.22) in connexion with item 13 (b) of its agenda entitled, "Report on the progress made with respect to paragraph 4 (b) of resolution 600 (XXI) adopted by the Economic and Social Council on 2 May 1956, concerning amendments to existing IMW specifications, keeping in mind the need for maintaining both the ICAO World Aeronautical Chart Series and the IMW Series"; twenty-one adhering countries to the IMW conventions were represented at the Conference. The paper was considered together with a United Kingdom proposal (E/CONF.25/L.8) for international standardization of sheet lines and projections for the land and air series on the scale of 1:1 million.

23. The Conference, recognizing the increasing need for IMW sheets by governmental agencies and scientific and cultural organizations for their various types of work, recommended to the Governments of the Asian region to accelerate the completion of IMW sheets for their respective territories, as well as the revision of the out-dated maps, and to maintain close co-operation with the United Nations Secretariat, in particular to inform the latter of the national agency responsible for the publication of IMW sheets, if such notification had not yet been submitted.¹³

24. With regard to amendments relating to map projection and sheet lines, the Conference accepted as a temporary measure the production of topographical maps at 1:1 millionth scale plotted on projections comparable to the modified polyconic projection, and on sheet lines which may differ from the IMW pattern, as proposed in the Secretary-General's paper.¹⁴

25. Moreover, the Conference recommended to Governments to implement as soon as practicable the adoption of the ICAO Lambert projection for plotting the IMW series between 80° north and 80° south latitude, and the use of the stereographic projection for the polar regions, and the adoption of Common ICAO/IMW sheet lines along the parallels. The meridional sheet lines, however, should be either along the ICAO or IMW pattern. The corresponding sheet numbering and reference systems—and no other—should be retained.¹⁵

26. Up to 31 January 1959, replies from five countries—Argentina, the Federal Republic of Germany, New Zealand, Switzerland and the United States of America—reached the Secretariat. The substantive parts of these replies are given in annex II to this report.¹⁶ A full analysis of views expressed will be undertaken when a sufficient number of countries have reported the result of their studies on the subject. However, it may be of interest to point out at this stage that in the light of the decisions of the Second United Nations Regional Cartographic Conference for Asia and the Far East, the United States, while accepting the basic idea of the paragraph 15 to be added to the present IMW specifications under the proposals in the Secretary-General's paper, suggested that the text of the paragraph should read as follows:

"In order to meet the present urgent need for topographic maps at the scale of 1:1,000,000 the ICAO Lambert projection may be used for plotting the IMW

series between 80° north and 80° south latitude. Meridional sheet lines may be along the ICAO or IMW pattern. The corresponding sheet numbering and reference systems, however, should be retained. The stereographic projection should be used for the polar regions."

ANNEX I

International uniformity in the writing of geographical names

A. ANNEX TO THE SECRETARY-GENERAL'S PAPER¹⁷

SUGGESTED PROGRAMME FOR THE INTERNATIONAL STANDARDIZATION OF GEOGRAPHICAL NAMES

by Dr. Meredith F. Burrill

*Executive Secretary of the United States Board
on Geographic Names*

[Original text: English]

Many of the Member States of the United Nations have come to agree that international standardization of the writing of geographic names, or at least a greater degree than now obtained, is highly desirable. Several countries have responded to the Economic and Social Council request for ideas on such international standardization with interesting and helpful replies. Two principal methods of obtaining standardization have been proposed: (1) standardization on the forms used by the nation of sovereignty, and (2) the use of an international alphabet for all geographic names.

Several international alphabets have been devised in the past. One, the IPA (International Phonetic Alphabet), has rendered good service for many years in linguistic and pedagogic circles. Evaluation of the possible role of an international alphabet in geographic name standardization requires a clear distinction between standardized writing and standardized pronunciation. Uniform writing is here the objective; such aid to pronunciation as is feasible and compatible with uniform writing is desirable, but over-emphasis on pronunciation should not be allowed either to defeat or obscure the objective.

Fully uniform pronunciation is impossible. Every language has its own unique sound system, never shared with any other language completely if at all. Speakers of one language cannot react to and produce at will all the sound features of another language without intensive linguistic training. Especially will speakers of languages with few sound distinctions (phonemes) be at a loss to reproduce sounds they have never heard before from languages with a greater number of phonemes. Mere symbols will not help one to pronounce strange sounds. Furthermore, although an "international alphabet" is usually thought of as representing with a different symbol every different significant sound in all the principal languages of the world, one that fully covered only the principal languages would be so enormously complicated and cumbersome as to defeat its purpose. It is in point that almost all writing systems employ conventions, since few alphabets represent, in a completely systematic way, the sounds of even the language or languages which they are regularly used to write.

Replacement of writing systems in present general use by an international alphabet is most unlikely. Judging from resistance in various countries in modern times to proposed orthographic reforms, proposals to introduce completely new alphabetic symbols (in contradistinction to modifications of present symbols) for supplementary special use in writing geographic names would also be unlikely to receive ready acceptance.

Written names are generally more widely recognizable within a writing system than are spoken names. Dialectical variations in pronunciation do not negate visual recognition by literate people. Written forms of unfamiliar names that invoke pronunciations that do not approximate local pronunciations closely are still acceptable; written forms containing sequences of symbols that appear unpronounceable

¹³ See United Nations publication, Sales No.: 59.I.9, p. 12, resolution 30.

¹⁴ *Idem*, resolution 31.

¹⁵ *Idem*.

¹⁶ Additional substantive replies received in time for the meeting of the Council will be found below in documents E/3209/Add.1-4.

¹⁷ See paragraph 11 above.

will be acceptable if the user can learn how to pronounce them in some fashion or rarely has to say them at all.

A practical programme looking toward international standardization must take full account of the linguistic and cultural limits set by present-day conditions. In the last few years it has been generally recognized that the practical impossibility of uniformity in spoken rendition of geographic names does not preclude a high degree of uniformity in writing them. People all over the world now have occasion to refer to, identify, or even go to places that their ancestors either never heard of or considered so far away and inaccessible as to be of no concern. It has become increasingly evident that the old gradual process of bending names from other sound systems into written forms compatible with the system of the receiver language, producing what we call "conventional" names, was consistent with the ideas, attitudes and limited geographic needs of earlier times. That process is inconsistent with today's concepts of international co-operation and of respect for people who speak other languages and inconsistent with the enormously greater number of geographic names with which people must deal.

It has also become apparent in recent years that the toponymic problems of one country commonly recur in other countries. This suggests that each country has something to gain from comparison of such problems and of the efficacy of efforts to solve them, since the experience of each country is relevant to comparable problems in other countries. Such experience means individual efforts as well as collective efforts by groups or Governments. A sharing of this experience and a comparison of problems would be highly profitable.

In light of the facts and conditions mentioned above, the following steps appear practical, feasible and internationally acceptable. They would bring about a much higher degree of international standardization than exists today.

I. It is proposed that an international conference be held under appropriate United Nations auspices on the problems of the international standardization of geographic names and that said conference refer its findings to the Economic and Social Council for use in further planning and for reference to the regional conferences mentioned below.

II. It is proposed that the regional conferences be based on the following writing systems:

- | | |
|----------------------|-----------------------------|
| 1. Roman alphabet | 8. Tibetan alphabet |
| 2. Cyrillic alphabet | 9. Burmese alphabet |
| 3. Greek alphabet | 10. Siamese (Thai) alphabet |
| 4. Hebrew alphabet | 11. Chinese |
| 5. Amharic alphabet | 12. Japanese |
| 6. Arabic alphabet | 13. Korean |
| 7. Indic alphabet | |

Several of the writing systems are used to write more than one language. The Roman, Cyrillic, Arabic and Siamese alphabets are used with extra symbols in addition to the basic ones in some languages, and with different sound values for at least some symbols within an alphabet group. However, in the main the principles operating within an alphabet group are the same and are the basis of classification. Although the Indic alphabet group actually includes many alphabets, all are ultimately based on the Sanscrit alphabet and operate on the same principle.

It is further proposed that regional working group conferences be set up under appropriate United Nations auspices, at which the nations in each writing system group involving more than one country would discuss the place-name problems of the group. It would probably be helpful for observers from other writing systems to attend such working conferences. It sometimes happens that transcription or transliteration draws attention in a useful way to inadequacies in the donor languages for the writing of geographic names. Such attendance would also serve as a reminder that each working conference is part of a larger plan. It is suggested that, in the interest of international standardization, each nation in each writing system group should establish the names and spellings of its own place names and make them available to other nations, particularly to other nations within its writing system group. If each nation in the group would accept the place-name spellings of the other nations in the group, standardization within one writing

system would automatically result. Within each writing system each nation would have to decide for itself, or in concert with other nations using the same language, whether to retain the diacritical marks and modified letters used in writing other languages of the group but not by themselves, or to "transliterate" such symbols; e.g., Roman-alphabet nations would decide either to reproduce Icelandic *ð* and *þ* or to transliterate them, for instance, by *dh* and *th* respectively.

Each nation would have to decide which conventional spellings or names for places outside its own jurisdiction it wishes to retain in addition to the proper spelling in the area where the place is. Each nation would also have to decide many problems relating to place-names within its jurisdiction, including its possessions, such as which language or languages are official in the country or possession as a whole or in specified parts, and how to treat names from minority languages within its boundaries.

Users of each writing system should transcribe or transliterate, whichever is linguistically appropriate, the place-names of other writing systems. Agreements on transcription and transliteration systems between the nation of origin and the nations into whose writing system names are taken is highly desirable and to be encouraged in the interest of international co-operation, but the needs of the receiver nations should be regarded as paramount. Here again the nations in each writing system should at least consider transcribing or transliterating uniformly the names from other writing systems.

Changes in the orthography of a language, on either a national or an international basis, should be respected and be reflected in international usage wherever feasible. It is recommended that orthographic reforms be made in the direction of improvement in the relationship between sound and symbol.

It is recommended that the United Nations make linguistic, geographic and other technical toponymic advice available, as desired, to the personnel of regional conferences mentioned above.

Geographic names are known to be subject to change, but it would be possible to make the nomenclature of every area of the world more stable and to achieve a higher degree of standardization if the groundwork in the compilation of place names by each nation is carefully done. It is therefore recommended that advice, such as described in the preceding paragraph, be made available by the United Nations to nations that request it.

The proposed steps would not accomplish international standardization of geographic names overnight, but each would lead in that direction and the initial steps are all feasible.

B. COMMENTS BY GOVERNMENTS

1. BELGIUM

[Original text: French]
[28 January 1959]

Remarks on the "Draft programme for achieving international uniformity in the writing of geographical names"

Standardization at the national level

Standardization from the geographical point of view appears not only desirable, but even necessary. At first sight, the problem does not seem to exist in countries where only one language is spoken, but even in those countries it would seem desirable to ascertain whether place-names with identical pronunciation are being spelt differently or whether a complicated spelling could not be simplified.

The problem takes on a different aspect in countries such as Belgium, where several languages are used. In Belgium there are numerous place-names which have a Dutch form as well as a French one—in particular, the towns and settlements near the linguistic border. It is not always possible in such cases to limit oneself to just one form, namely, the one used in the particular linguistic area where the place is situated.

The bilingual atlas of Belgium published by the Geographical Committee has for the most part adhered to the

rule of spelling geographical names according to the linguistic area in which the place is situated.

Belgium is thus faced with a special problem in the matter of the standardization of spelling. As far as the standardization of Dutch or Flemish names is concerned, if we leave aside the problem of the existence of numerous bilingual forms, little remains to be done. The simplification of the Dutch spelling has been extended in Belgium to cover geographical names as well. It is worth noting that Flemish names of bilingual localities or those that have become mainly French-speaking have kept the old spelling along with the simplified one.

The reform of the spelling of geographical names of the Walloon part of the country still depends primarily on further studies by linguists.

The Belgian Military Geographical Institute, which has as one of its duties the preparation of maps of Belgium on various scales, conforms to the spelling of names of towns and municipalities as decided by the Decree of the Regent of 20 December 1949. This Decree provides for two different designations for a number of municipalities, the second being in parentheses. The second name is, sometimes Flemish—*Namur (Namen)*; sometimes French—*Antwerpen (Anvers)*; sometimes German—*Bullange (Büllingen)*. The new maps of the Institute give only the first spelling, except for *Bruxelles (Brussel)*. The spelling of the names of less important places and of the features (hamlets, rivers, streams, brooks, etc.) and geographical terms, has not been fixed by any official document. A detailed study of place-names is being carried out by the Geographical Institute concurrently with the preparation of the new basic map of Belgium. Proposals supported by all the information gathered through this study are submitted to the Commission royale de toponymie et de dialectologie which examines them and submits other proposals if necessary. In principle, the latter are adopted by the Institute. It may be noted that the language used for less important place-names is that of the municipality concerned. In dealing with bilingual settlements, both forms of the less important place-names are indicated on the map, as long as legibility is not impaired. It is, of course, desirable that all publishers of Belgian maps should follow the rules of the Institute.

The Commission linguistique africaine, set up to formulate rules concerning the correct spelling of geographical names of the Belgian Congo, has decided to base itself on the way the place-names are pronounced by the local inhabitants. Since a correct phonetic transcription of each sound cannot always be achieved with the sounds of our alphabet, the Commission has laid down certain rules for reproducing the local pronunciation as faithfully as possible.

Place-names of European origin are given in the national language used in the document in which they appear, as is already the practice in all official bilingual records (*Léopoldville—Leopoldstad*, etc.).

International standard methods

With regard to the adoption of uniform international methods for the transliteration or transcription of geographical names, the geographer cannot but welcome the research that is being carried out.

However, the solution of the problems does not rest with him: it is the responsibility of specialists in linguistics and onomastic science. It is they who must decide on the essential element of a name (whether its pronunciation, written form, or meaning) and on how it is to be written. As advanced by Dr. Meredith F. Burrill, author of "Suggested programme for international standardization of geographical names", the standardization of the transcription—keeping in mind a universally adopted international alphabet—is the essential criterion.

Because of the importance attributed to pronunciation—and in the absence of an international alphabet—different spellings are found in atlases published in different countries in the case, for example, of Asian or African place-names.

The method suggested by Dr. Burrill for arriving at conformity of spelling would seem to be a reasonable one.

With respect to Western Europe, the countries using the Latin alphabet should, as a matter of course, agree on a standardization of geographical names. However, it would be useful if countries with identical languages were to

reach an understanding beforehand. Thus, it would be useful if the simplification of spelling instituted in Belgium for certain place-names in the Flemish part of the country were officially adopted by the Netherlands. But what system should be used for the names of Flemish origin in northern France? How should one write *Hazebrouck*, where the vowel sound of the last syllable is represented by *ou*, in French, but by *oe* in Dutch?

Moreover, Dr. Burrill's suggestion for the adoption of a uniform method of transcription or transliteration within the Latin framework of geographical names taken from other systems of writing is worthy of attention. For instance, the absolute lack of uniformity in the spelling of Slavic or Chinese names, which are written quite differently in French, English, German, Dutch and Italian atlases, is to be regretted.

Nevertheless, it seems impossible to eliminate the particular national forms of foreign place-names in the different languages. These forms of spelling should therefore be retained in those languages, but it might be agreed that the spelling used in the country of origin should be added in brackets in official atlases and publications of international scope.

It would appear to be the responsibility of linguistic specialists to solve these problems at the technical level. But the geographer may certainly make a contribution too, if only by pointing to the anomalies and difficulties resulting from a multiplicity of spellings and by preparing geographical indexes.

2. CANADA

*[Original text: English]
[25 September 1958]*

It is recognized that the adoption of a uniform method of writing geographical names involves two basic questions, namely, the standardization in one form of a geographical name by the country concerned, and the selection of standard methods of transliteration or transcription of the accepted form into other languages. It is agreed that the first question is a domestic matter, but that international co-operation could lead to common methods and procedures, and might assist the development of a uniform method of transliteration or transcription. It is, however, suggested that experts in systems of writing and in languages rather than cartographers could best undertake this co-operative work.

If there is evidence of sufficient international interest in this problem, the Economic and Social Council might encourage the setting up of regional committees of experts to study the possibility of achieving uniformity in the writing of geographical names among the language groups of their regions. The finding of these committees might be reported through the Economic and Social Council to future cartographic conferences.

3. CHILE

(Report by the Instituto Geográfico Militar)

*[Original text: Spanish]
[18 December 1958]*

In view of the pressing need to achieve international uniformity of geographical nomenclature as quickly as possible, the following procedure is recommended:

(a) Uniformity in the writing of geographical names should first be attained at the national level.

(b) The international co-ordination and liaison offered by UNESCO [*United Nations Educational, Scientific and Cultural Organization*] should then be utilized in order to achieve international uniform methods and a maximum degree of international uniformity in the writing of those names.

The report submitted by the Military Geographic Institute [*Instituto Geográfico Militar*] deals with what has already been accomplished in Chile and what still remains to be done as regards nomenclature and the standardization of geographic names....

Work done in Chile to achieve uniformity in the writing of geographical names at the national level

The first geographical dictionary of Chile was published at the end of the last century (*Diccionario Geográfico de la República de Chile*, by Francisco Solano Asta-Buruaga y

Cienfuegos, 2nd ed., Santiago, 1899). In this dictionary the etymological meaning and original pronunciation of each name are transcribed with a view to explaining the written form in which aboriginal names appear.

Diccionario Geográfico de Chile, by Luis Riso Patrón (Santiago, Imprenta Universitaria, 1924). The author consulted 168 works, charts and maps in preparing his great work, which lists more than 28,000 geographical names and gives the geographical co-ordinates, altitude above sea level and description of each site. He made use of the most trustworthy sources available in his time. In the foreword to his work he wrote:

"Since we wish to record the names exactly as they appear in the documents consulted, it has seemed advisable to follow the Chilean spelling rules (Don Andrés Bello's Orthography), used by most of our geographers (and still in use in 1924).

"It is not possible to provide a complete list here of the specifically Chilean meanings recorded in this dictionary." He then listed various geographical terms and explained their meaning, especially those frequently used in Chile in a sense differing from that current in other Spanish-speaking countries. After many aboriginal geographical names, Riso Patrón recorded in parentheses other ways of writing them which he felt should be abandoned because they were either incorrect or inadequate in view of their etymology and pronunciation in the aboriginal language.

The Military Geographic Institute is at present preparing a new geographical dictionary of the Republic of Chile, based chiefly on that of Riso Patrón, but revised, brought up to date and augmented with many new geographical names and their descriptions. This geographical dictionary will cover the whole of the national territory (from Arica to the geographic south pole—the Chilean Antarctic sector is the sector lying between the 53rd and 90th meridians west of Greenwich). In the preparation of this work, the Military Geographic Institute has used the spelling established by the Royal Spanish Academy of Language; "Chileanisms" and many Chilean geographical names are written in the form accepted by the Chilean Academy of Language, which is the Chilean counterpart to the Royal Spanish Academy.

In preparing the geographical dictionary, the Military Geographic Institute has followed the principles laid down for geographic publications by the Pan American Institute of Geography and History (PAIGH) in conformity with the decisions and recommendations of the Fifth General Assembly of PAIGH, which was held at Santiago, Chile, in 1950. It has also complied with the standards prescribed in 1952 by the National Committee for Geography, Geodesy and Geophysics.

With a view to systematizing toponymic orthography (the writing of geographical names), a methodical, detailed and careful study has been made of each name. Geographical names have been classified into:

(a) Aboriginal names: originally in Quechua, Aymará, Araucan, Mapuche, Huilliche, Atacamen, Diaguita, Chango, Cunco, Chono, Alacalufe, Yagán, Ona, Tehuelche, etc.

(b) Spanish names given by the Spaniards in the centuries before the conquest of Chile and in the colonial period.

(c) Chilean names, local names, changed or displaced from the original locations given on maps or charts, etc.

(d) Foreign names.

The decisions of the International Congress of Onomastic Sciences, which provide that "words and names of foreign origin shall be written and pronounced as in the original language", have in most cases been followed in the transliteration of names even though these decisions are sometimes in contradiction with the rules of the Royal Spanish Academy.

Lastly, the following principles have been laid down by the Commission for the Geographical Dictionary appointed by the National Committee for Geography, Geodesy and Geophysics:

(a) *Aboriginal names* are to be written in accordance with their original pronunciation.

Research on the pronunciation of the aboriginal names has in turn been based on material compiled by distinguished linguists and authors of dictionaries such as:

Fr. P. Armengol Valenzuela (Archbishop of Granja), *Glosario etimológico de nombres de ríos, de lugares y de vocablos aborígenes de Chile y de algún otro país americano*, two volumes (Santiago, Imprenta Universitaria, 1918).

Ernesto Greve, *La nomenclatura geográfica y la terminología técnica* (Santiago, Imprenta Universitaria, 1936).

Fr Félix José de Augusta, *Diccionario araucano-español y español-araucano* (Santiago, Imprenta Universitaria, 1916).

Rev. F. Ludovico Bertoni, *Vocabulario de la lengua aymará* (Leipzig, Teubner, 1879).

Rev. F. Sebastián Englert, *Diccionario rapanui-español* (Padre de las Casas, Chile, Imprenta San Francisco, 1948).

Rev. F. Wilhelm de Moesch, *Voz de Arauco* (Padre de las Casas, Chile, Imprenta San Francisco, 1944).

Walterio Meyer Rusca, *Diccionario geográfico y etimológico indígena* (Padre de las Casas, Chile, Imprenta San Francisco, 1956).

Dr. Rodolfo Lenz, *Diccionario etimológico de las voces chilenas derivadas de lenguas indígenas americanas* (Santiago, Imprenta Cervantes, 1904).

On the basis of a comparative study of this material and with the collaboration of Mr. Ernesto Greve, general rules for the writing of aboriginal geographical names were established:

Aboriginal names ending in "cu" or "co" are preferably to be written with the "cu" termination except when they are derived from the word "co" which in Mapuche means "water". Example: *Irruputuncu* will be written, not *Irruputunco*.

Onomatopoeic names (for example, Chiuchú, Biobío) will be written in the form given, since they are so pronounced by the aborigines in imitation of the sound of what they mean.

Guafo will be written instead of *Huafo* and, for similar reasons, *Rancagua*, *Collaguasi*, *Guacolda*, etc.; but the names *Huara*, *Huasco*, *Huáscar*, *Huantajaya*, *Talcahuano*, *Hualañé*, *Hualqui* and *Huachipato* will be written with an "h". Also excepted and written with an "h" are the names derived from words written with "h" (for example, *Colihual*, derived from *colihue*).

"H" is also to be written before "ue" and "ui" (for example, *Pudahual*, *Huemul*, *Coihueco*, *Limahuida*) with the exception of names derived from words written with "g" (for example: "desagüe", derived from *desaguar*).

"I" is to be written instead of "y" at the end of names ending in an acute accent, for example: *Sotoquí*, *Puerto Fúí*, etc.

"I", instead of "y", is also to be written after "qu", for example: *Elqui*, *Punitaqui*, *Hualqui*.

The dash or hyphen to be avoided in compound geographic names; thus *Biobío* (instead of *Bio-Bio*), *Pillanlelbún*, *Chiuchú*, *Lliullíu*, *Llailay*, etc.

It should be noted that "y" is omitted in the middle of a word (*Llailay* is to be written instead of *Llayllay*). Moreover, in reduplications, compounds, or onomatopoeic words, the accent is to be written only on the last syllable: *Biobío*, *Chiuchú*, *Lliullíu*, etc.

When the aboriginal names appear in different forms on different maps, charts or other documents prepared or preserved by various government agencies, research on the aboriginal pronunciation is undertaken in order to derive the appropriate spelling. This toponymic research is carried back to the oldest known etymology of the name, and "toponymic cards" are then made up on which are recorded the oldest known names, their etymology or meaning, their pronunciation and, lastly, their spelling.

(b) *Spanish names* are to be written in accordance with the Dictionary and Grammar of the Royal Spanish Academy of Language.

(c) *Local Chilean names* are to be written in the form accepted by the Chilean Academy of Language, the counterpart of the Royal Spanish Academy.

(d) *Foreign names*: In a large number of navigation charts for the Southern Zone of Chile, which are based in large part on British Admiralty charts, many names are in English. To achieve uniformity with respect to the standards adopted by Chile, which is, for historical and geographical

reasons, the country exercising sovereignty over that zone, the English descriptive names have been translated into Spanish. In addition, names have been adopted which are more appropriate to the characteristics of the particular geographical features, and thus it has come about that many of these names now once again coincide with the Spanish names that were originally given to the islands, channels and various features of the southern coast long before the arrival of ships of the British Admiralty. During the sixteenth, seventeenth and eighteenth centuries, almost the entire region of the Chilean channels and archipelagos was explored, navigated and named by such famous Spanish navigators as García Jofré de Loaysa, Alcazaba Sotomayor, León Bancaldeo, Francisco Camargo, Francisco de Ulloa, Juan Ladrillero, Francisco Cortés Ojeda, Pedro Sarmiento de Gamboa, Bartolomé García Nodal, Gonzalo Nodal, Antonio de Córdova and others.

Moreover, during the past century, many Chilean mariners carried out hydrographic work in the region and, in exploring the intricate labyrinth of the channels, gave Chilean names to a number of features which had not yet been named, as may be verified by reference to the Hydrographic Annals, nautical charts and other official documents. Among the Chilean hydrographers of the last century, the following deserve mention: Ramón Serrano Montaner, Baldomero Pacheco and, later, Ricardo Guerrero, Alberto Fuentes, Roberto Maldonado and others.

The strengthening of the Chilean culture and national spirit in this area has continued in the present century, both in Chilean Patagonia and in the Chilean Antarctic territory, which includes the sector between the 53rd and 90th meridians west of Greenwich, and especially in the great Antarctic Peninsula called Tierra de O'Higgins, where the names have been given added authority by the Chilean expeditions which periodically explore this territory and by the many Chilean bases permanently established in the Antarctic.

International co-ordination and liaison to achieve uniform methods and a maximum degree of international uniformity in the writing of geographical names

The United Nations offer to sponsor regional conferences is welcomed by Chile. A conference among the nations of Latin America would seem to be advisable as a first step in achieving the desired international uniformity in the writing of geographical names, and when, as a result, uniformity had been achieved in that area, other more extensive international conferences would be held, such as a conference of all countries using the Latin alphabet for the writing of geographical names.

As an effective contribution by Chile to the attainment of this uniformity within Latin America, the Military Geographic Institute has just prepared and published a work called *Terminología-geográfica hispano-americana* (Hispano-American Geographic Terminology) which, as its name indicates, is intended to facilitate the adoption within Latin America of uniform meanings, definitions and usages for all the geographical terminology most frequently employed in that part of the world.

The work, which was published by the Military Geographic Institute in 1958, contains more than two hundred pages in which the geographical terms arranged in alphabetical order are defined.

The new geographical dictionary of Chile, on which the Military Geographic Institute is working, and its *Terminología geográfica* are both specific examples of Chile's concern with the two points contemplated in the United Nations programme: to achieve uniformity in the writing of geographical names at the national level, and to achieve greater international co-operation and liaison in establishing standards that will bring about a maximum degree of international uniformity in the writing of geographical names.

By way of conclusion, the Military Geographic Institute would state that, with regard to all the other aspects of the subject under study, it is in agreement with the draft programme prepared for the Economic and Social Council for achieving international uniformity in the writing of geographical names, but at the same time it considers that Chile must reserve the right to use the geographical names transcribed in the geographical dictionaries of Chile, which

are considered official documents, and to use those names until international uniformity is achieved. In this way, Chile is attempting for the time being to achieve uniformity at the national level in the writing of these names.

4. COSTA RICA

[Original text: Spanish]
[28 August 1958]

The draft programme mentioned above is an attempt to reduce to a reasonable minimum the difficulties which in the spelling and pronunciation of geographical names are a result of the different languages and alphabets used throughout the world. It can be said that in our continent there is no problem, as only one alphabet is used, and the phonetic differences between the officially recognized European languages are relatively small. It would consequently be simple to find a common denominator that would eliminate these differences. The problem is serious in Eurasia, as that area is the cradle of cultures which developed in response to different environments and were stimulated by economic needs and philosophic trends which varied from time to time and from place to place.

The annex to the draft programme includes a recommendation for the establishment of regional working group conferences under United Nations auspices; there is another recommendation that the United Nations should make technical advice available to the regional working groups. Costa Rica accepts this plan in principle; its execution and financing would be the responsibility of the Costa Rican committee of the Pan American Institute of Geography and History.

We can offer but little to solve the problems of peoples separated from ourselves by different cultural traditions. We shall confine ourselves at present to offering our co-operation in the American regional community in order to achieve "international uniformity in the writing of geographical names", while leaving to the great Powers the task of achieving what is possible on other continents.

5. DOMINICAN REPUBLIC

[Original text: Spanish]
[24 November 1958]

The Dominican National Section of the Pan American Institute of Geography and History had been informed of the draft programme for achieving international uniformity in the writing of geographical names, and had decided that, in view of the importance of this project and the complexity of the subject matter, it would be appropriate to establish in the Dominican Republic a committee responsible for achieving uniformity in our geographical names in accordance with standards that would promote the desired international uniformity.

6. GHANA

[Original text: English]
[21 October 1958]

In Ghana the Roman script is employed in the transcription of geographical names. One of the functions of the Bureau of Ghana Languages is the co-ordination of national effort in determining the correct spelling and transcription of place names. The Bureau advises on derivation, meaning, vernacular spelling and transliteration of geographical names within Ghana, but the Director of Surveys is the final authority for the accepted spelling.

Thus Ghana's policy is in keeping with the decision of the Inter-African Committee on Maps and Surveys at its meeting in Cape Town last November. The Committee rejected a suggestion of the Comité des sciences humaines to hold a combined meeting of linguistic experts covering the whole area of the Commission for Technical Co-operation in Africa South of the Sahara and passed the following resolution:

"The spelling of geographical names is the responsibility of the Government of the territory concerned and no international agreement seems necessary except where the transliteration of non-Roman script is in question. Most Governments have the services of an expert committee to advise them on geographical names within their own

territory. Membership of such a committee usually includes experts on any language used within the territory and there is opportunity for full consultation with adjoining territories in cases of a common language."

Within Ghana itself the problem is a linguistic and not a cartographic one. As the phonetic script is generally used for the local languages, all place-names of local origin, excepting Anglicized or adopted English names, are in the first place transliterated in phonetic script but retranscribed in the Roman script for cartographic, general printing and other purposes. The problems are for linguistic experts, not cartographers, and the sharing of experience by international experts could be of mutual help to all concerned.

As regards the interesting memorandum by Dr. Meredith Burrill of the United States Board on Geographic Names, Dr. Burrill seems to have completely overlooked the problem of African languages south of the Sahara which possess sounds which cannot be always easily expressed in the thirteen alphabets mentioned in his paper. It is now many years since the adoption by Africanists of the so-called International African Script, created mainly by Professor Westermann. This script has been used in practically all learned and vernacular-language publications on and in Africa, and it is suggested that it be added as the fourteenth item to Dr. Burrill's list.

Co-operation at the national level and between neighbouring Governments is not at the moment a matter of great interest to Ghana from the cartographic point of view, as areas on the borders as well as areas of adjoining territories themselves are generally the least developed and, in many cases, not yet mapped. The problem will naturally present itself with the development of these areas. When that happens, it should be possible to set up consultative bodies to deal with it bilaterally rather than by international consultation. There would, of course, be the need for a central co-ordinating body whose functions would be to lay down principles on broad bases only and to collect and collate information for international use. If such a body is set up by the United Nations it would be ready to perform these functions as the need arises in any territory it serves.

7. IRAN

[Original text: English]
[26 August 1958]

There are two problems to be considered: The first is a problem of a different sort and relates to the transcription of names of countries (Deutschland—Allemagne—Germany) or cities (Den Haag—The Hague—La Haye, etc.) and of common geographical names.

This linguistic problem can be solved only in the case of general maps (for instance, IMW or similar maps).

The second problem is the selection of alphabetical letters to define exactly the pronunciation of geographical names. Each country has selected certain letters or combinations of letters, accents, indexes, etc., for the pronunciation of the letters of its alphabet. As, on one side, the letters of the Latin alphabet are pronounced differently in each language, and, on the other side, certain sounds existing in one language do not exist in another, a standardization of alphabetical letters and symbols is imperative.

As the proposal of Brigadier General H. A. Razmara, former chief of the Army Map Service of the Imperial Army of Iran, made to the Economic and Social Council of the United Nations on 1 May 1950, is simpler and more complete than the letters selected, for instance, by the United States Board on Geographic Names (see special publication no. 78: The transliteration of Arabic and Persian), we are in favour of the said proposal. . . .

This proposal is reproduced below as it was presented in annex IV to document E/2362, submitted to the Economic and Social Council at its fifteenth session:

(1) All geographical names, names of countries, towns or natural features, in all countries, on all published maps and in all textbooks in use, especially international 1/1,000,000 maps, should be written uniformly according to the current local name (of course, excluding historical maps);

(2) In order that names on maps may be written and pronounced uniformly, a single special alphabet should

be drawn up and published by decision of the United Nations.

I add the following notes by way of brief explanation:

(a) Generally speaking, geographical proper names are written differently in each country and bear no resemblance to the local names. For example, the name adopted by the English, French or Egyptians for the capital of their respective countries is given different interpretations in other countries. Again, the country which we Iranians call "Tchine" (*cin*)** and the French call "Chine" (*cin*), the English "China" (*çâynâ*), and the Russians "Kitai" (*kitây*), is called by the Chinese themselves "Tchungo" (*çungo*). This diversification is as inadmissible as the changing of a person's proper name. This age of great discoveries, with its plans for the conquest of inter-planetary space and its grandiose schemes for utilizing the extraordinary advances to be made in the near future, unfortunately has not succeeded in adopting a common universal language; but at least agreement should be reached to ensure that for geographical names, which are not infinite in number, all nations should adopt a uniform spelling, conforming to that established by usage in the country concerned. Such standardization would not only facilitate the teaching of geography and the every-day use of maps and similar documents but would also make international maps truly international, so that all nations would really be able to accept them as such and each nation would recognize them as conforming to its own conceptions.

(b) With a view to attaining a uniform spelling for geographical names on maps, I think it would be desirable for the United Nations to consider compiling a uniform alphabet, which should be as simple as possible but should include all the essential sounds.

Pronunciation key used in the Iranian Geographical Dictionary

Signs	Iranian equivalents	French pronunciation	English pronunciation
a	آ	imprimer	Answer
e	اے	modél	annex
o	او	Orange	Order
ow	کشورهای مانند (تورک)	—	LOW
d	د	Age	hard
i	ی	tir	ill
u	او	Ouvrage	put
b	ب	bord	bad
p	پ	porte	park
t	ت	table	table
s	ت-س-س	Sang	Song
i	ج	dj	Japan
c	چ	tch	change
h	ح-ه	hauteur	horn
x	خ	kh	kh
d	د	drapeau	dash
z	ذ-ژ-ز-ظ	Zinc	zone
r	ر	Tendre	rail
j	ژ	jardin	—
c	ش	Chapeau	shoe
g	ع و همزه ساکن	—	—
q	غ-ق	gh	gh
f	ف	froid	far
k	ک	kilometre	kind
l	ک	Groupe	Guess
g	ل	lambert	London
m	م	Monde	Mad
n	ن	Noire	Noise
v	و	Voix	Value
y	ی	Yacht	Year

** See pronunciation key below.

In March 1950 several publications of the Geographical Section of the General Staff of the Imperial Iranian Army, together with the first and second volumes of our geographical dictionary, were sent to the United Nations through the Iranian Ministry of Foreign Affairs.

As perusal of the dictionary will show, the Iranian alphabet does not have separate signs for vowels but has instead additional consonants written differently but similar in sound, and therefore, in order to indicate the exact pronunciation of the vowels we have had to use the alphabetic signs already given in the large NAFICY Iranian dictionary.

The resulting alphabet, the key of which is contained in the attached annex, was considered adequate to indicate the exact pronunciation of Iranian names. However, for the proposed international alphabet, the adoption of which depends upon the decision of the United Nations, it will probably be necessary to add a number of additional signs.

I believe that disinterested co-operation, together with the goodwill of the services concerned, cannot fail to achieve the desired result, which will represent a notable contribution to international progress.

8. IRELAND

[Original text: English]
[22 July 1958]

The terms of resolution 600 (XXI) of the Economic and Social Council have been referred to the Irish Ordnance Survey Office, which has replied that it has no observations to offer. It states that in general it endeavours to follow as far as possible such decisions as may be reached in matters of this kind and in this particular regard its policy is adequately reflected by the methods followed in national maps as published from time to time.

The matter of transliteration of names from Gaelic to the Roman alphabet raises no special difficulties in this connexion as cartographical procedure is the same as the literary and the latter already in this respect is a matter of common occurrence and practice.

9. ISRAEL

[Original text: English]
[25 September 1958]

The International Geographical Union established during the early years of the present century a committee on the international map of the world on the scale 1:1,000,000. This committee laid down amongst others a procedure on the writing of geographical names.

It is suggested that reference to this procedure would solve the question under discussion in the most satisfactory manner. In short, the rules provide that the transliteration system known as RGS-II should be adhered to.

In so far as the special problem of Israel is concerned, i.e., Hebrew geographical names and their transliteration, the following procedure is laid down by law, and is adhered to by the Survey of Israel:

(i) It is the duty of the Government Names Committee, which is affiliated to the Prime Minister's Office, to decide on the correct form of geographical names in Israel and to devise such names for geographical features which had no name hitherto.

(ii) The Survey of Israel is producing editions of its maps printed in the Latin alphabet in which the names are transliterated according to an established system which is derived from RGS-II with slight amendments made by the Hebrew Language Academy. This system for "Simplified Transliteration" has been published in *Reshumot* (The Official Gazette) No. 519 of 23 January 1957.

10. LUXEMBOURG

[Original text: French]
[30 July 1958]

The Government of Luxembourg has examined with great interest the draft programme in question and expresses its agreement to co-operate in committees with the objective

of achieving international uniformity in the transcription of geographical names.

11. FEDERATION OF MALAYA

[Original text: English]
[3 November 1958]

(a) Standardization at the national level

We fully agree with the suggestion in this section. As we here are in the process of transliterating foreign names and terms into our own language for official publication for the information of the general public, it may prove very fruitful to us if such a suggestion be endorsed and carried out immediately. We recommend that the systematic exchange of technical information on the subject—special studies, technical decisions, gazetteers, etc.—should be arranged through a central clearing body the formation of which is entirely at your discretion.

(b) Adoption of general principles for international standard methods

(i) We agree whole-heartedly with the method of selecting any element in any particular geographical name by which it can be converted into various systems of writing, but recommend that such selection should be determined by its meaning.

(ii) The acceptance for international use of a system of writing is feasible. We suggest that such a system should be based on an existing alphabet with additions so as to facilitate the representation of various phonetic symbols, wherever and whenever possible or practicable. We, here, for our national purposes are still in the stage of deliberating our alphabets based on a phonemic system. We hope to complete our work in the near future and shall be willing to give whatever suggestions may be asked for later in this connexion.

(c) Preparation of international transliteration methods

We agree with this recommendation and wish to inform you that we together with the Indonesian Government have been trying to reach an agreed standardized alphabet on a phonemic base for the use of both territories, i.e., the Federation of Malaya and Indonesia.

It is also our opinion that this recommendation should be implemented immediately to the fullest extent and that to form committees dealing with all systems of writing simultaneously would be a chaotic and fruitless effort.

(d) International co-ordination and liaison

We agree with this recommendation and give our assurance that we shall be willing to give whatever information may be required from us and that we are willing to give our full support to the implementation of any suggestion in whatever way we can.

We fully endorse as a whole the draft programme for achieving international uniformity in the writing of geographical names.

12. NETHERLANDS

[Original text: English]
[22 July 1958]

The Government of the Netherlands submitted a list of geographical names for the Netherlands Antilles,¹⁸ compiled by a committee appointed for this purpose, and stated: "In this connexion reference is also made to the Secretary-General's note of 26 June 1958, EC 821, submitting, under the provisions of resolution 600 (XXI) of the Economic and Social Council, a draft programme for achieving international uniformity in the writing of geographical names. The attached list can be considered to constitute a first reaction to the draft programme's paragraph dealing with 'standardization at the national level'. The comments of the Netherlands Government on the draft programme which were requested in paragraph 5 of Council resolution 600 (XXI) will be submitted at a future date."

¹⁸ The list is available for consultation at the Secrétariat.

13. NEW ZEALAND

[Original text: English]
[11 August 1958]

Geographical names in New Zealand are written in the Roman alphabet and are derived from English, other European and Maori language sources. The assignment of new place-names and the amendment of existing place-names are the responsibility of the New Zealand Geographic Board. A copy of the New Zealand Geographic Board Act 1946¹⁹ is enclosed.

The following rules of nomenclature have been adopted by this Board:

(1) An original name, where suitable, should be given preference.

(2) (a) Where the original name has been changed by publication or by local usage, the original name should be restored in the correct form.

(b) Where, however, the incorrect name has become established by local usage over a long period, the Board may in its discretion retain such incorrect form.

(c) Where the choice lies between two or more names all sanctioned by local usage, that which is most appropriate and euphonious should be adopted.

(3) The publishing of a name in any work which in the opinion of the Board is authoritative should be taken into consideration, but the publishing of any name shall not necessarily establish that name.

(4) The possessive form should be avoided whenever possible without destroying the euphony of the name or changing its descriptive application.

(5) The use of hyphens to connect parts of names should, in most cases, be avoided and the name written either as one word or as separate words where established by usage.

(6) Geographical names in a foreign language should be rendered in the form adopted by that country, except where there are English equivalents already fixed by usage.

(7) Where the name for a single feature has been published in both Maori and English forms, both of which forms are in general use, the Board may retain both forms, either of which may be used officially. The use of alternative names should, however, as a general rule be discontinued.

(8) In the case of new names for Alpine and other features, the mountaineers or explorers first climbing, traversing or discovering such features shall have the right to submit names for the approval of the Board.

In connexion with the Antarctic place-names, authorities in Australia, the United Kingdom and the United States of America, the New Zealand Geographic Board acts as an Antarctic place-names committee in the assignment and amendment of place-names in the Ross Dependency.

Lists of names approved by the Board from time to time are published in the *New Zealand Gazette*, copies of which are made available to other international place-name authorities.

14. NICARAGUA

[Original text: Spanish]
[25 August 1958]

The matter, which has been widely discussed at all the meetings of the Pan American Institute of Geography and History and on the occasion of the Central American Cartographic Week, is considered by the Government of Nicaragua to be entirely feasible from the cartographic point of view.

The problem is purely linguistic and thus, once the draft programme has been approved by the various countries, the solution of the problem will have to be left to their linguistic experts. After that, each country will decide whether the system of writing which has been chosen should be accepted and, if so, how that system should be applied to its official language and to geographic publications, charts, maps, etc.

¹⁹ The Act is available for consultation at the Secretariat.

15. PAKISTAN

[Original text: English]
[28 November 1958]

(1) (a) In the Department of Survey of Pakistan, the transliteration of names is based on the Hunterian system for the spellings of all names in Pakistan.

(b) In addition to the above, the spellings of names as given in the *Imperial Gazetteer of India*, 1905 edition, are also taken as authoritative.

(2) Names falling in transfrontier areas are adopted from the "Permanent Committee list on geographical names" published by the Royal Geographical Society, London.

(3) The script used is Roman.

16. PANAMA

(Memorandum prepared by Professor Angel Rubio, Chief Geographical Adviser to the Ministry of Foreign Affairs)

[Original text: Spanish]
[20 August 1958]

...

III. Comments on the United Nations draft programme

With regard to the initial problems raised in the interesting draft programme prepared by the United Nations—such as the possibility of expressing the element of geographical names in different writing systems, and of obtaining international acceptance and application of a particular writing system through the establishment of a new alphabet, the adoption of an existing alphabet or the use of phonetic symbols—it has been argued that international agreement on these questions is unlikely to be achieved. It is proposed not to refer to other preliminary matters, but to turn at once to the problem of uniformity in the writing of geographical names.

No proposal to establish or adopt an international phonetic alphabet has any hope of acceptance at present or in the immediate, and possibly relatively distant, future. It would complicate matters and would moreover conflict with the respect due to the various different cultures as a basis of international understanding and co-operation.

There is some merit in the idea, referred to in the programme of creating a central organization, provided that the central body has broader functions than that of the mere collection and distribution of information and of the results of past and current work, as suggested in the programme.

The idea of convening an international conference on geographical names, under the auspices of the United Nations, is acceptable in principle provided that the conference is preceded by a period of preparatory work designed to give a sense of direction to the discussions with a view to securing more positive results than a collection of theoretical recommendations that might lack coherence. In order to carry out the preparatory work it seems essential that some central body or unit should be set up within the United Nations, whose aid and support would enable it to work effectively and smoothly.

Similar considerations apply to the convening of regional conferences of groups of States and peoples using the same writing systems. The results are likely to be more positive if they are guided and co-ordinated by a central body.

The final recommendations contained in the annex to the programme, prepared by Dr. Meredith F. Burrill, geographer and Executive-Secretary of the United States Board on Geographic Names, incorporate valuable suggestions which are worthy of support.

IV. Recommendations

The writer ventures to make the following recommendations in the light of the foregoing.

A. General principles

(1) Each geographical name or toponym is the product of a culture and as such belongs to the people in whose area and within whose culture (or series of past cultures)

it arose and evolved until it reached the form in which it is written at the present time.

(2) Toponyms are subject to permanent change, as a result of natural evolution or government decisions; they also undergo changes when they are converted into other languages and systems of writing.

(3) Changes in geographical names and the increase in their number form a continuing process and permanent arrangements must be made to deal with them.

(4) From the point of view of international understanding and co-operation, the problem of uniformity in the writing of geographical names (though not in their pronunciation) is of world-wide importance. It needs to be tackled immediately and, in view of its complexity, it needs to be solved progressively, by stages. This can only be done successfully in and through the United Nations.

(5) For practical purposes, it would appear to be necessary to establish categories of geographical names based on the frequency with which they are used: (a) names in common international use; (b) names in frequent use within a given country; (c) names used locally and to a limited extent.

(6) States using the same writing system should standardize the writing of their toponyms as soon as possible.

(7) The conventional forms of foreign place names, or translations of place names into other languages using the same writing system, should be progressively eliminated. At all events, the use of such forms should be limited, until such time as they are eradicated, to the country which created and uses them.

(8) Transliterations and transcriptions should be standardized in States using the same writing system.

B. Proposed plan

The following course of action is proposed; it would be divided up into phases and undertaken and developed within the United Nations.

Initial phase

(1) *The establishment by the United Nations of a central international body* which might be called the "international committee on geographical names". In the initial phase, the character and function of the body would be as follows:

(a) It would be the central, official United Nations body responsible for the examination and solution of the problem of uniformity in the writing of geographical names.

(b) It would promote and stimulate the interest of Governments in the establishment of national committees on geographical names and advise such committees in carrying out the functions assigned to them.

(c) It would collect, collate, publish and circulate the results achieved by the private organizations concerned with the problems of transliteration and transcription of toponyms.

(d) It would prepare, with such expert advice as might be necessary, basic documentation for the discussion and formulation of rules for transliteration and transcription.

(e) It would collect, compile and publish lists or nomenclature of geographical names in common international use, and lists of geographical names in frequent national use prepared by the national committees; and ensure that they received the widest possible dissemination.

(f) It would prepare, at the earliest possible date and with such expert advice as might be necessary, a provisional list of nomenclature of geographical names in common international use, in the form in which they were written in the Roman, Cyrillic, Arabic and Indic systems of writing. The list would be used as a basis of discussion in regional conferences and in an international conference on geographical names.

(g) It would recommend to the Secretary-General of the United Nations the convening, as appropriate, of regional working groups and regional conferences of States using the same writing system with a view to the standardization of the writing of place-names within that system. It would arrange for them to be provided with the necessary expert advice.

(h) It would consider, and make recommendations on, the desirability of convening an international conference on geographical names, and would organize and make preparations for the conference if it was decided to convene it.

(i) It would lay the foundations for the compilation of a nomenclature or list of geographical names in common international use and in frequent national use, together with the standard methods of writing them in each writing system.

(j) It would answer questions submitted to it by States and interested institutions on matters concerning the international spelling of place-names.

Constitution. This would be similar to that of other United Nations bodies such as the International Law Commission. Initially it would consist of a permanent secretariat at a seat to be selected and three members representing the Roman, Cyrillic, Chinese, Arabic and Indic writing systems. The members would attend annual sessions lasting three or four months. They would be chosen from experts in geography with special knowledge of toponymy, geographical dictionaries etc., or experts in cartography, communications etc. Financial assistance in meeting expenditure might be obtained through the co-operation of organizations interested in the problem of writing geographical names (postal, radio, transport agencies, travel organizations etc.).

Headquarters. Geneva is recommended in view of the availability of the Palais des Nations and the proximity of Berne, the seat of the Universal Postal Union. Failing Geneva, London would, if possible, be a suitable headquarters, as it is the seat of the Royal Geographical Society, whose Permanent Committee on Geographical Names has taken a leading part in the study of transliterations and transcriptions.

(2) *The creation by States of national committees on geographical names* with firm official backing and sufficient funds to discharge their duties quickly and efficiently. The duties and membership of these committees might be as follows:

(a) They would be national bodies qualified to establish the way of writing geographical names within the State and its dependencies, in its own writing system, and the usual manner of writing the geographical names of other countries, including those which use the same writing system and those whose names must undergo transliteration and transcription;

(b) They would be agents of, and work in co-operation with, the United Nations international committee on geographical names;

(c) They would prepare nomenclatures or lists of those geographical names (toponyms, oronyms and hydronyms) which they consider to be in common international use, in frequent national use, or in limited local use;

(d) They would record and publish the official changes of names within their State and communicate them to the international committee on geographical names;

(e) They would settle the numerous practical problems raised by national toponymy;

(f) They would promote and lay the groundwork for the preparation of national geographical dictionaries and the development of the scientific study of toponymy;

(g) They would act as advisers to the cartographic, statistical and communications services of their countries in questions of the writing of geographical names;

(h) They would consider and settle questions on transliteration and transcription submitted to them by the international committee on geographical names or other institutions concerned.

The first stage, if carried out expeditiously, might be completed within five or six years.

The later phase

Activities and functions would largely depend on experience in the first phase. With that proviso, they could be as follows:

(a) The definitive establishment of the international committee on geographical names;

(b) The widening of the committee's activities to include the question of the standard writing of place-names in writing systems not considered during the first phase;

(c) The formulation of international rules for transliteration and transcription from one writing system to another on the basis of discussions in regional conferences, regional working groups, consultative meetings of experts or any other procedure considered appropriate. Publication and dissemination of the rules adopted;

(d) The preparation and publication of nomenclature or list of geographical names showing the standard form of each writing system and the conventional forms used by various countries employing the same writing systems;

(e) The centralization and circulation of documentation concerning the writing of geographical names and methods for transferring them from one writing system to another;

(f) The dissemination of official changes in geographical names, and suggestions for their transliteration or transcription;

(g) The preparation and periodic revision of a universal geographical dictionary after establishment of the criteria to be followed in compiling a dictionary of this type;

(h) The centralization and encouragement of the study of scientific toponymy at the international level.

17. PHILIPPINES

[Original text: English]
[24 October 1958]

[The Government of the Philippines] recognizes the desirability of achieving international standardization in the writing of geographical names. As a member of the International Hydrographic Bureau, The International Civil Aviation Organization, the Universal Postal Union and the International Telecommunication Union, the Philippines will accept in principle whatever international standard methods may be adopted by any or all of those agencies.

The Philippines uses the alphabet system of writing, generally the Roman alphabet with more or less consistent orthography based on the local dialects and the Spanish and English languages. In case of absolute standardization, the Philippines is inclined to adopt the English way of spelling place-names.

The Philippines may also be able to adopt bilateral exchange of source materials, such as gazetteers and census lists, and participate in any international conferences that may work toward a practical international standardization of geographical names, such as that proposed in the draft programme. At present, it does not publish a sufficient number of charts and maps of foreign countries to be very much affected by the standardization methods of transliteration and/or transcription of geographical names from one writing system group to another.

18. SPAIN

[Original text: Spanish]
[3 September 1958]

The Instituto Geográfico y Catastral de España considers the topics mentioned therein of real interest and would wish to take part in the proposed work and meetings and to be kept advised at frequent intervals about any decisions which may be taken and how the problems in question are viewed and solved in other countries.

The Institute's point of view is summarized in the four sub-paragraphs below:

(1) Need for an exchange between countries having technical information on the subject, as indicated in section (a) of the draft programme.

(2) Desirability of holding regional conferences, as indicated in section (c) of the draft programme. Great difficulty is being experienced in working out a special system for the writing of geographical names.

(3) Desirability of agreeing to standardization in respect of languages using the Roman alphabet through the adoption of special symbols.

(4) The Geographic Institute is endeavouring to standardize the toponymy of Spanish geography and it is doing this in the Spanish geographical atlas now in preparation.

19. UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

[Original text: English]
[27 August 1958]

Her Majesty's Government are in general agreement with the views expressed in this paper and in its annex. In regard to the two questions raised in section (b) of the document, it is the view of Her Majesty's Government that the most satisfactory basis for standardization of geographical names is the written form rather than the sound of the name or its meaning, and that the Roman alphabet, supplemented by diacritical marks as necessary, would provide the most effective means of standardizing the writing of such names.

20. UNITED STATES OF AMERICA

[Original text: English]
[7 October 1958]

The United States is in general agreement with the draft programme for achieving international uniformity in the writing of geographical names.

The United States is confident that the Secretary-General in the implementation of the programme will present for consideration by the Economic and Social Council detailed, concrete proposals, and the United States is hopeful that these proposals will include the following elements:

(1) That the United Nations should provide encouragement and guidance to those nations which have no national organization for the standardization and co-ordination of geographical names to establish such an organization and to produce national gazetteers at an early date;

(2) That the Secretariat should act as a central clearing-house for geographical names with the following functions:

(a) The collection of gazetteers and information concerning the technical procedures that each Member State has adopted for standardization of domestic names;

(b) The collection of information on the techniques and systems used by each Member State in the transliteration of the geographical names of other countries;

(c) The dissemination to Member States of all documents and information collected, utilizing existing United Nations periodicals wherever feasible;

(3) Within the limits of budgetary availability to sponsor conferences of regional working groups representing countries which use the same system of name-writing in order to develop guiding principles for attaining uniformity in domestic name procedures and for the standardization of the methods used in the transliteration of foreign names.

It is believed that the actions outlined would be desirable and necessary as initial steps towards international name standardization and would be deserving of emphasis at this time.

ANNEX II

Amendments to the specifications of the International Map of the World on the Millionth Scale

COMMENTS BY GOVERNMENTS

1. ARGENTINA

(Memorandum prepared by the Military Geographic Institute)

[Original text: Spanish]
[14 November 1958]

This Office entirely agrees with the views expressed and has pleasure in sending you some suggestions which you may wish to take into account in drawing up a plan of work for the application of the new standards to be used in the preparation and publication of the sheets in question.

It is accordingly suggested that the following topics should be given consideration in any such plan:

(a) The advisability of fixing sheet size according to the latitude of the area represented, setting longitudinal limits for each zone. The object of this would be to standardize, as far as possible, the specifications for each zone of latitude, bearing in mind that great progress is being made in obtaining cartographic information for the entire world and that the polar regions themselves will very shortly be covered.

(b) A critical examination of the symbols to be used in the future. Those at present in use do not, for the most part, meet the requirements of the scale and ought, in addition, to be modified to conform to modern cartographic practice.

(c) The standardization, so far as possible, of the symbols on maps on the same scale in the two series where such symbols represent items of information common to both series. This would enable users to read maps in either series with an equal degree of facility.

(d) The standardization, in both the IMW and the ICAO WAC series, of a new range of colours for indicating altitudes.

(e) The adoption of the same typography—uniform body, face and class of type—for the printing of names in both series (IMW and ICAO WAC). The handlettering method at present used in the IMW means that more time is needed for preparation and that there is no exact similarity in the form of the letters.

(f) The possibility of adopting the same projection for both series, it being understood that the cartographic requirements to be met should be those called for by the ICAO WAC specifications.

2. FEDERAL REPUBLIC OF GERMANY

[Original text: English]
[20 January 1959]

The Federal Government has entrusted to the Institut für angewandte Geodäsie at Frankfurt am Main the tasks related to the subject. The Institute has already informed the United Nations Secretariat in its direct correspondence with the Cartographic Section that the German comments on the draft proposals have to await the completion of sheet No. N. 32 (Hamburg), which will be ready in May or June 1959.

3. NEW ZEALAND

[Original text: English]
[7 November 1958]

The sheet lines of International Millionth-Scale maps are inconvenient and uneconomical in their coverage of New Zealand. The eight sheets which are used to cover New Zealand could, it is considered, be reduced to five without harm to the series by amalgamating sheets 59I with 60I, 59J with 60J and 58L with 59L. Sheets 59K and 60K would remain unchanged.

In order to encourage the use of the sheets within New Zealand it is thought desirable to show heights in feet rather than in metres.

4. SWITZERLAND

[Original text: French]
[17 November 1958]

In order to accelerate the publication of the International Map of the World on the Millionth Scale it is suggested that for certain areas a "parallel edition" of the IMW might be published, using a system different from, although very similar to, the modified polyconic projection; it is further suggested that the sheet lines also should be slightly modified.

As a transitional solution that proposal could certainly be accepted. But if the IMW is to fulfil its purpose those sheets ought later to be plotted in accordance with existing specifications.

Switzerland has not so far participated in the preparation of the IMW; the competent authorities are not, therefore, in a position to make proposals with regard to the revision of the "detailed technical features".

5. UNITED STATES OF AMERICA

[Original text: English]
[28 January 1959]

There is general agreement with the principles outlined in the draft proposal. It is believed, however, that more clarification is needed in the wording of paragraph 15, which is proposed to be added to the IMW specifications.

A resolution concerning this same subject was adopted at the Second United Nations Regional Cartographic Conference for Asia and the Far East, held in Tokyo from 20 October to 1 November 1958. It is believed that this resolution (agenda item 13) provides the clarification needed, and should be used as a basis for modifying paragraph 15 of the draft proposal. It is suggested, therefore, that the paragraph be revised as follows:

"15. In order to meet the present urgent need for topographic maps at the scale of 1:1,000,000, the ICAO Lambert projection may be used for plotting the IMW series between 80° north and 80° south latitude. Meridional sheet lines may be along the ICAO or IMW pattern. The corresponding sheet numbering and reference systems, however, should be retained. The stereographic projection should be used for the polar regions."

Document E/3209/Add.1

[Original text: English and French]
[3 April 1959]

1. Since the completion of the Secretary-General's report, E/3209, additional replies were received from two Governments—those of the Federal Republic of Germany and Norway—regarding the draft programme for achieving international uniformity in the writing of geographical names and from seven Governments—those of Australia, Canada, Italy, the Netherlands, Sudan, the United Kingdom and Yugoslavia—regarding the draft proposals for amendments to the existing IMW specifications. The substantive parts of these replies are given below in supplements to annex I and annex II of document E/3209.

2. With regard to the draft proposals for amendments to the IMW specifications, the recent replies contained further views on the question. On the basis of all the replies so far received and resolution 31²⁰ of the Second United Nations Regional Cartographic Conference for Asia and the Far East, it seems that no adverse views were expressed on the principle outlined in the Secretary-General's paper for temporary measures. In connexion with action to be taken at the present stage, two more specific texts were proposed: (a) the United States suggested an alternative text for an additional paragraph 15 (see E/3209, para. 26) and (b) the United Kingdom proposed two sub-paragraphs, 3(c) and 6(d); these sub-paragraphs, which would be added to the IMW specifications instead of a new paragraph 15, would read as follows:

Sub-paragraph 3(c)

"In any 4-degree latitude belt north of 32° N. or south of 32° S., it shall be permissible to use the limiting meridians of the ICAO aeronautical chart series on the scale 1:1 million instead of those prescribed above, provided that the sheet numbering system described in paragraph 4(a), (b) and (c) is retained."

Sub-paragraph 6(d)

"As an alternative projection to the modified polyconic projection described above, the Lambert conformal conic projection may be used between latitudes 80° N. and 80° S., as specified by the International

²⁰ See United Nations publication, Sales No.: 59.I.9, p. 12. The text of this resolution is also reproduced below in supplement 1 to annex II of document E/3209, section 6.

Civil Aviation Organization for aeronautical charts on the scale of 1:1 million. For maps of the polar regions north of 80° N. or south of 80° S. the stereographic projection may be used."

Several countries accepted the Secretary-General's draft with the understanding that the standard IMW sheets for the area covered by the parallel edition should be published at a later date.

SUPPLEMENT TO ANNEX I OF DOCUMENT E/3209

International uniformity in the writing of geographical names

B. COMMENTS BY GOVERNMENTS (continued)

21. FEDERAL REPUBLIC OF GERMANY

[Original text: English and German]
[19 February 1959]

Similar to the Board on Geographic Names of the United States of America and to the Permanent Committee on Geographical Names of the United Kingdom, a "Ständiger Ausschuss für die deutsche Rechtschreibung geographischer Namen" (Permanent Committee on the Writing of Geographical Names in German) has been established to promote uniformity in the writing of geographical names within the German-language area. Austria and Switzerland will be permanently represented in this body. The Ministry for Foreign Affairs of the Federal Republic of Germany is represented through the head of its Geographical Service. The Eastern Zone of Germany will be covered via the "Duden-Redaktion".

For further details, the Permanent Observer takes the liberty of quoting a government bulletin as follows:

"The Federal Ministry of the Interior announces that on the proposal of the German Cartographic Association, a 'Permanent Committee on the Writing of Geographical Names in German', made up of experts in geography, cartography and German studies, was established on 16 January 1959. Its function will be to prepare recommendations and rules for the standardized official and unofficial spelling of geographical names in the German-language area, and to publish lists of names in accordance with those rules. It will also represent the German point of view in questions of the international standardization of geographical names. With the help of the Study Group for Spelling Rules and the editorial board of Duden, the newly established Committee is preparing a volume in the Duden series to be called 'Duden, Spelling of Geographical Names (Geography Duden)' which will contain the German spellings recommended by the Permanent Committee and the official spelling of the most important place-names and geographical names of the world. The Committee elected Professor E. Meynen, the Director of the Federal Geographical Services, as its Chairman. Its business address will be c/o The Federal Geographical Service, Bergstrasse 38, Remagen."

22. NORWAY

[Original text: English]
[23 March 1959]

The competent Norwegian Authorities have no comment to submit to the paper entitled: "Draft programme for achieving international uniformity in the writing of geographical names".

SUPPLEMENT No. 1 TO ANNEX II OF DOCUMENT E/3209 Amendments to the specifications of the International Map of the World on the Millionth Scale

COMMENTS BY GOVERNMENTS (continued)

6. AUSTRALIA

[Original text: English]
[6 March 1959]

Concerning map projection and sheet lines, the Australian authorities approve the following proposals adopted by the Second United Nations Regional Cartographic Conference for Asia and the Far East in its resolution 31:

"The Conference,

"Recognizing the present urgent need for world-wide map coverage at 1:1 millionth scale for general maps including IMW, aeronautical charts and topical maps,

"1. Accepts as a temporary measure the production of topographical maps at 1:1 millionth scale plotted on any projection comparable to the modified polyconic and on sheet lines which may differ from the IMW pattern, as proposed in the progress report prepared by the Secretariat dated 18 October 1958;

"2. Recommends to the Governments to implement as soon as practicable the following:

"(a) Adoption of the ICAO Lambert Projection for plotting the IMW Series between 80 degrees north and 80 degrees south latitude;

"(b) Adoption of Common ICAO/IMW sheet lines along the parallels. The meridional sheet lines, however, should be either along the ICAO or IMW pattern. The corresponding sheet numbering and reference systems—and no other—should be retained;

"(c) Use of the stereographic projection for the polar regions."

In connexion with the third aspect of the matter, "Detailed cartographic features", the Australian authorities are preparing a revised style sheet.

7. CANADA

[Original text: English]
[10 March 1959]

The Canadian Government is currently engaged in producing Canadian coverage for the World Aeronautical Chart series, which is on the same scale as the International Map of the World on the Millionth Scale. In view of this previous commitment, it is most unlikely that further maps of the International Map of the World series will be published in the next few years. If, on the other hand, the sheet lines were revised to conform to those of ICAO, which are the same as the Canadian National Topographical series, and if certain specifications and symbols were made to conform more nearly with the ICAO bases, these changes would permit the production of the IMW series without making it necessary to draft an entirely new series of maps.

The Secretary of State for External Affairs would also like to point out that the production of an International Map of the World would require changes in contour and other height information from the English system, which is used in Canadian cartography, to the metric system in order to conform to IMW specifications. While some time may therefore elapse before the Canadian Government shall be producing maps of Canada conforming to the International Map of the World series, the Secretary of State for External Affairs agrees that the inclusion of paragraph 15 in the specifications would be desirable.

8. ITALY

[Original text: French]
[10 February 1959]

The Government of Italy is ready to accept the draft proposals for amendments to the IMW specifications. The Government is, however, of the opinion that the adoption of the draft proposal and the implementation of the proposed revision of the system of projection used in the International Map of the World on the Millionth Scale should be considered only as a provisional solution, for the purpose of obtaining a parallel edition of the map, with the understanding that it is desirable to speed up as much as possible the attainment of the final objective—namely, the publication of the standard IMW sheets.

9. NETHERLANDS

[Original text: English]
[6 March 1959]

The Governments of the Netherlands, Surinam and the Netherlands Antilles find themselves in agreement with the proposals contained in resolution 31 of the Second United Nations Regional Cartographic Conference for Asia and the Far East.

Regarding the International Map of the World on the Millionth Scale and with reference to the last paragraph of the paper enclosed with the Secretary-General's note, a translation of some comments by Professor W. Schermerhorn of the International Training Centre for Aerial Survey, Delft, the Netherlands, is attached.

At the request of the Government of Surinam the Permanent Representative of the Netherlands would like to suggest changing the title on sheet N.B.-21 from "Georgetown" to "Georgetown-Paramaribo", since Surinam is represented on this sheet as much as British Guiana.

Attachment: Comments of Professor W. Schermerhorn

"One of the unsolved questions is the relation between the old International Map of the World on the Millionth Scale (IMW series) and the World Aeronautical Chart (1:1,000,000) of ICAO.

"It is clear that the World Aeronautical Chart meets a specific modern need and therefore it is often preferred to the IMW. Both maps are on the same millionth scale; however, the projection—that is, the network of meridians and parallels—is somewhat different, although this is not disturbing. The differences are so small that the map projection of the WAC, the so-called Lambert projection, could be recommended for the IMW. This will mean a certain simplification for the construction of the new International Map of the World, because in part the same basic material can be used for the reproduction of both series. With respect to sheet lines, both maps use the four-degree band starting from the Equator. The limits of the meridians are however different, so that the east-west dimensions of the ICAO and the International Map sheets are not quite the same. At the Second United Nations Regional Cartographic Conference for Asia and the Far East it became apparent that the requirements for these two types of map are not the same.

"Concerning the IMW, which in principle is produced by every country for its own territory, it would be desirable if more standardization of the symbols could be obtained. However, too rigid United Nations standards would probably delay production, because of the heavy expenditures in shifting from one system to the other.

"The proposal of the Japanese delegation to have a study commission work out proposals for standardized symbols seems attractive, although the question arises if the results could lead to a general application in the near future. In view of the differences in quality of reproduction between the various sheets of the IMW, it would be useful if the Central Bureau of the IMW, now entrusted to the Cartographic Section of the United Nations, could draft recommendations. On page 48 and following of volume IV of *World Cartography*, the conventional symbols used for the International Map of the World are reproduced. Several of these symbols and in particular the lettering are out of date and no longer acceptable for a good work, as nowadays there are much better types. If necessary cartographic experts could give advice on this matter.

"With reference to the relation between the WAC and the IMW, I should wish to mention the method applied in Australia, in which the same basic material is used for compiling both map-series and the topographical sheet is obtained by adding topographical details to and deleting aeronautical details from the World Aeronautical Chart. In this way, both series could be issued in a rather cheap way such that each would be usable for its own purpose."

10. SUDAN

[Original text: English]
[11 February 1959]

The draft of the proposed amendment is a genuine solution for retaining sheets already published on slightly varying projection and sheet lines to become a parallel edition of the IMW sheets. But with the modern cartographic methods and map reproduction equipment, the transformation of such parallel edition into the standard production and sheet lines of the IMW is not a problem to warrant a permanent deviation from the standard specification.

It is understood that Member States will endeavour to comply with the standard specification when revising or issuing a new sheet as far as their economical and technical resources permit.

In the circumstances, I see no better medium than the suggested draft.

11. UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

[Original text: English]
[24 March 1959]

In the first place, the United Kingdom Government entirely agree with the principle behind the Secretary-General's proposition, which is to enable nations to economize in their map production by avoiding the necessity of maintaining two separate series of maps and charts at the 1:1 million scale for use on land and in the air. It is largely the differences in projections and sheet lines which have hitherto made any such economy impossible, so that any measures which will rationalize in these directions are likely to be acceptable. It is realized that the land maps and the air charts do necessarily differ in style and presentation in various particulars, so that it will not be possible to make one series alone serve both purposes satisfactorily. Nevertheless, if some rationalization can be achieved, there will be some worth-while economies in the various stages of production; and in the finished products, it is likely that at least some of the different colour plates comprising the maps and charts may be common to both.

Having said this, and considering the views expressed at the Second United Nations Regional Cartographic Conference for Asia and the Far East in Tokyo, the United Kingdom Government consider that the Secretary-General's proposed paragraph 15 of the IMW specifications does not go quite far enough. In their view it is possible and desirable to be rather more specific in the matter of projections, and also desirable to specify on the question of sheet numbering of sheets in the land and air series respectively. In view of this they propose that, instead of adding a new paragraph 15, two new sub-paragraphs in paragraphs 3 and 6 of the specifications should be added:

Sub-paragraph 3 (c)

"In any 4-degree latitude belt north of 32° N. or south of 32° S., it shall be permissible to use the limiting meridians of the ICAO aeronautical chart series on the scale 1:1 million instead of those prescribed above, provided that the sheet numbering system described in paragraph 4 (a), (b) and (c) is retained."

Sub-paragraph 6 (d)

"As an alternative projection to the modified polyconic projection described above, the Lambert conformal conic projection may be used between latitude 80° N. and 80° S., as specified by the International Civil Aviation Organization for aeronautical charts on the scale of 1:1 million. For maps of the polar regions north of 80° N. or south of 80° S. the stereographic projection may be used."

It is necessary to explain that the reason for specifying 32° N. and 32° S. in the proposed sub-paragraph 3 (c) above, is that a large proportion of ICAO charts between these limits already coincide with IMW sheet lines, and there seems no reason why the remainder should not do so. (The United Kingdom Government intend to suggest this at the next ICAO meeting a little later this year.) It is therefore only north and south of these limits that it is suggested that IMW sheet limits might well come into line with those of the ICAO charts.

12. YUGOSLAVIA

[Original text: English]
[16 February 1959]

The Yugoslav Government is in agreement with the draft proposals for amendments to the existing specifications governing the preparation and publication of the sheets of the International Map of the World on the Millionth Scale (1:1,000,000). Therefore, it is also for the inclusion of the proposed paragraph 15, "Parallel edition", in the existing specifications.

Document E/3209/Add.2

[Original text: English and Spanish]
[10 April 1959]

SUPPLEMENT No. 2 TO ANNEX II OF DOCUMENT E/3209**Amendments to the specifications of the International Map of the World on the Millionth Scale**COMMENTS BY GOVERNMENTS (*continued*)

13. CHILE

[Original text: Spanish]
[1 April 1959]

The specifications governing the preparation and publication of the sheets of the International Map of the World on the Millionth Scale are those set out in the publications *Carte du monde au millionième, Comptes rendus des séances de la deuxième Conférence internationale, Paris, décembre 1913* and *Report of the Meetings of the Commission on the Carte du monde au millionième—1928*. These specifications provide, *inter alia*, that the projection to be used for the International Map of the World on the Millionth Scale shall be Lallemand's modified polyconic projection, the main feature of which is that it keeps the meridian more or less parallel within areas covered by a limited number of sheets.

Various countries have reported that they are unable to produce the Map on the Millionth Scale as their technical personnel is engaged on cartographic work required for their economic development. For this reason and in view of the fact that the main difficulty in carrying on with the publishing of the International Map lies in the differences between the projections used in the cartographic work done so far, it is proposed that the following should be included in the existing specifications, as paragraph 15.

"15. Parallel edition.

"In order to meet the present urgent need for topographic maps at the scale 1:1,000,000 a sheet plotted on a projection comparable to the modified polyconic projection or showing slightly different coverage shall be issued as a *parallel edition* of the IMW sheets."

The Control Department of the Military Geographic Institute, after plotting a framework on the basis of the various projections that have been proposed and comparing the results, has reached the conclusion that there are no great differences as between the distortions peculiar to each of the projections.

With each of the projections analysed, adjacent sheets can be joined without producing any substantial divergencies. In other words, they fulfil the basic objective underlying the adoption of the modified polyconic projection as the most suitable projection for the publication of this major cartographic work.

With regard to the plotting of the sheets, it is considered important to retain the International Map of the World sheet reference, as well as the original classification, since this problem presents no difficulties.

As the Physical Map of Chile (1955 edition) produced by the Military Geographic Institute was based on the modified polyconic projection, future cartographic publications, which will conform to the specifications for the International Map of the World, should not present any difficulties in this connexion.

14. FINLAND

[Original text: English]
[1 April 1959]

In the document containing the draft proposals referred to above, it is proposed that a new paragraph 15 (Parallel edition) be included in the existing specifications. The Government of Finland consider that this addition would facilitate in many respects the publication of the IMW, since it will make it possible to use the same basic compilation for the IMW as for the WAC sheets.

The sheets, three in number, of the IMW issued in Finland are already obsolete and two of them are no longer in use. The sheets of the WAC map have not yet been issued in Finland. Instead, there is a one-sheet aviation map on the scale 1:1,000,000 which follows the symbols of the WAC map. The proposal for the parallel edition will be useful for the issuance of new Finnish sheets of the IMW map and for the preparation of the WAC map for Finland.

The Government of Finland consider that the renewal of the symbols and lettering would be an important improvement. The Government of Finland also favour the plastic scribing and photo-setting methods.

The style sheet with renewed symbols would apparently be useful for the issuance of new sheets and for the revision of old sheets.

Document E/3209/Add.3

[Original text: French]
[13 April 1959]

SUPPLEMENT No. 3 TO ANNEX II OF DOCUMENT E/3209**Amendments to the specifications of the International Map of the World on the Millionth Scale**COMMENTS BY GOVERNMENTS (*continued*)

15. BULGARIA

[Original text: French]
[4 April 1959]

All three of the projections proposed are practicable for the International Map on the Millionth Scale, namely:

- (a) The polyconic projection;
- (b) The normal conformal conic projection for aeronautical charts;
- (c) The conformal transverse cylindrical projection.

It would be preferable to use the conformal conic projection, but the predominant consideration must be the practical convenience of actual cartographic work.

Document E/3209/Add.4

[Original text: English]
[15 April 1959]

SUPPLEMENT No. 4 TO ANNEX II OF DOCUMENT E/3209**Amendments to the specifications of the International Map of the World on the Millionth Scale**COMMENTS BY GOVERNMENTS (*continued*)

16. UNION OF SOUTH AFRICA

[Original text: English]
[9 April 1959]

The Union of South Africa shares the apparent desire to relax the specifications governing the production of the IMW series in order to accelerate completion of the world coverage. From an economic and practical point of view the Union of South Africa will have difficulty in producing both the IMW/1:1 million series as well as the ICAO/WAC 1:1 million series so long as their specifications differ to the extent that they do at present.

As the Union of South Africa has recently produced reliable coverage for a large part of southern Africa for the purposes of the ICAO/WAC series, the Union would welcome any relaxation of the IMW specifications which would enable the Union to make use of its existing fair-drawing material

with the minimum of additional work to it to form a basis for the production of both series.

The main differences between the two series lie in the *projection, sheet line, symbolization, contour, interval and measure*. The draft proposals for amendments to the existing specifications for the preparation and publication of the sheets of the IMW in its [proposed] paragraph 15 meets the difficulties of the Union of South Africa only halfway in so far as it suggests recognition of a parallel edition although it will be drawn to a different projection and to differing sheet lines.

It is therefore suggested that the proposals in paragraph 15 should go further so as to admit to the parallel edition sheets reflecting also a difference in *symbolization, contour, interval and measure*.

The resultant IMW parallel edition which is visualized could then be economically produced by the Union of South Africa from existing ICAO fair-drawing material. The

ICAO edition would be taken over unchanged within the neat lines as far as black, brown, blue and layer tint information is concerned. Roads printed in grey for ICAO would be printed in red for IMW. Map title and footnotes to the sheets would appear in a style approximating that of the IMW or any amended version of it. A monochrome reference would most likely appear on the reverse instead of on the face of the sheet.

It is hoped that it will be possible to approve of the Union's suggestions and at the same time the assurance is given of the IMW series to the best of its ability. However, failing relaxation being effected as outlined above, it is desired to draw attention to the Union's difficulties which were communicated as early as February 1952 [E/2376, annex II, sect. D]—and again in April last year—and which relate to the limitation of resources for coping with two so widely differing series of 1:1 million world maps. In such circumstances it would also not be possible to assess the date on which the production would be completed.

DOCUMENT E/L.827

Mexico, Netherlands and United Kingdom of Great Britain and Northern Ireland: draft resolution

[Original text: English and Spanish]
[20 April 1959]

The Economic and Social Council,

Having considered the report of the Secretary-General concerning international co-operation on cartography (E/3209 and Add.1-4),

A

Noting the draft programme for achieving international uniformity in the writing of geographical names (E/3209, para. 11) which was transmitted by the Secretary-General to the Governments of Member States for comment,

Considering the comments on the draft programme that have been received from the Governments,

1. Requests the Secretary-General:

(a) To provide encouragement and guidance to those nations which have no national organization for the standardization and co-ordination of geographical names to establish such an organization and to produce national gazetteers at an early date;

(b) To take the necessary steps to ensure the following central clearing-house functions for geographical names:

(i) Collection of gazetteers and information concerning the technical procedures that each Member State has adopted for standardization of domestic names;

(ii) Collection of information on the techniques and systems used by each Member State in the transliteration of the geographical names of other countries;

(iii) Dissemination to Member States and, upon request, to any working groups established on a common linguistic basis, of all documents and information collected, utilizing United Nations periodicals wherever feasible;

2. Further requests the Secretary-General:

(a) To set up a small committee of experts chosen, with due regard to suitable geographical distribution and to the different linguistic systems of the world, from those countries having widest experience of the problems of geographical names:

(i) To consider the technical problems of domestic standardization of geographical names, including the preparation of a statement of the general and regional problems involved, and to prepare draft recommendations for the procedures, principally linguistic, that might be

followed in the standardization of their own names by individual countries;

(ii) To report to the Council at an appropriate future session, in the light of its discussion on the above points, on the desirability of holding an international conference on this subject and of the sponsoring of working groups based on common linguistic systems;

(b) To invite Governments of countries interested and experienced in the question to make available, at his request and at their own expense, experts to serve on the above committee.

B

Noting the draft proposal for amendments to the existing specifications for the International Map of the World on the Millionth Scale (E/3209, para. 21), which was transmitted by the Secretary-General to the Governments of the Member States for comment,

Recognizing the increasing need of the International Map of the World on the Millionth Scale and the urgency for completing these maps at an early date,

Requests the Secretary-General to suggest to the publishing agents of the Map that they should modify the specifications for the International Map of the World on the Millionth Scale by adding the following two sub-paragraphs to paragraphs 3 and 6:

Sub-paragraph 3 (c)

"In any 4 degree latitude belt north of 32° N. or south of 32° S., it shall be permissible to use the limiting meridians of the ICAO aeronautical chart series on the scale 1:1 million instead of those prescribed above, provided that the sheet numbering system described in paragraph 4 (a), (b) and (c) is retained."

Sub-paragraph 6 (d)

"As an alternative projection to the modified polyconic projection described above, the Lambert conformal conic projection may be used between latitudes 80° N. and 80° S., as specified by the International Civil Aviation Organization for aeronautical charts on the scale of 1:1 million. For maps of the polar region north of 80° N. or south of 80° S. the stereographic projection may be used."

C

Considering :

(a) That one of the purposes of the International Map of the World on the Millionth Scale is to allow of greater facility and exactness in planning the economic and social development of all countries through the rational utilization of their natural resources,

(b) That modern cartography, based on aerial photography, can contribute effectively to that end by the exactness of the information which it provides ;

(c) That a knowledge of the renewable natural resources of a country is the indispensable basis for planning the development and better utilization of such resources,

Requests the Secretary-General to consult technical organizations in that field with a view to studying the possibility of providing that future editions of the sheets of the International Map of the World on the Millionth Scale should, as far as possible, show the existing plant cover, by means of suitable symbols, and in accordance with a simple classification distinguishing such features as woods, arable areas, scrub, pasture land, areas of special cultivation, etc.

DOCUMENT E/L.829

France : amendments to documents E/L.827

[Original text : French]
[21 April 1959]

Draft resolution C

1. Add to the preamble a sub-paragraph worded as follows :

“(d) That it would be helpful if Member States received at regular intervals the most recent information on the progress made with the Map”.

2. Add the following sentence at the end of the operative part :

“and to report to the Council at an appropriate session on the results of his consultations.”

RESOLUTIONS ADOPTED BY THE ECONOMIC AND SOCIAL COUNCIL

714 (XXVII). International co-operation on cartography: question of convening a third United Nations regional cartographic conference for Asia and the Far East

The Economic and Social Council,

Commending the valuable work achieved by the Second United Nations Regional Cartographic Conference for Asia and the Far East,

Recalling the recommendation of the Conference²¹ that a third United Nations regional cartographic conference for Asia and the Far East be convened not later than 1961,

Noting the increasing interest of Governments in participating in the work of such conferences,

Requests the Secretary-General to consult the Governments of the States Members of the United Nations and the specialized agencies concerned on the convening, not later than 1961, of the third United Nations regional cartographic conference for Asia and the Far East and on the date, place and agenda of the conference, and to report to the Economic and Social Council at its twenty-ninth session.

1064th plenary meeting,
23 April 1959.

715 (XXVII). International co-operation on cartography

A

The Economic and Social Council,

Having considered the report of the Secretary-General concerning international co-operation on cartography (E/3209 and Add.1-4),

²¹ United Nations publication, Sales No. : 59.I.9, p. 7, resolution 2.

Noting the draft programme for achieving international uniformity in the writing of geographical names (E/3209, para. 11), which was transmitted by the Secretary-General to the Governments of Member States for comment,

Considering the comments on the draft programme that have been received from the Governments,

1. *Requests* the Secretary-General :

(a) To provide encouragement and guidance to those nations which have no national organization for the standardization and co-ordination of geographical names to establish such an organization and to produce national gazetteers at an early date ;

(b) To take the necessary steps to ensure the following central clearing-house functions for geographical names :

(i) Collection of gazetteers and information concerning the technical procedures that each Member State has adopted for standardization of domestic names ;

(ii) Collection of information on the techniques and systems used by each Member State in the transliteration of the geographical names of other countries ;

(iii) Dissemination to Member States and, upon request, to any working groups established on a common linguistic basis, of all documents and formation collected, utilizing existing United Nations periodicals wherever feasible ;

2. *Further requests* the Secretary-General :

(a) To set up a small group of consultants chosen, with due regard to equitable geographic distribution and to the different linguistic systems of the world, from those countries having widest experience of the problems of geographical names :

(i) To consider the technical problems of domestic standardization of geographical names, including the preparation of a statement of the general and regional problems involved, and to prepare draft recommendations for the procedures, principally linguistic, that might be

followed in the standardization of their own names by individual countries ;

(ii) To report to the Council at an appropriate session, in the light of its discussion on the above points, on the desirability of holding an international conference on this subject and of the sponsoring of working groups based on common linguistic systems ;

(b) To invite Governments of countries interested and experienced in the question to make available, at his request, and at their own expense, consultants to serve on the above group.

1064th plenary meeting,
23 April 1959.

B

The Economic and Social Council,

Having considered the report of the Secretary-General concerning international co-operation on cartography (E/3209 and Add.1-4),

Noting the draft proposal for amendments to the existing specifications for the International Map of the World on the Millionth Scale (E/3209, para. 21) which was transmitted by the Secretary-General to the Governments concerned for comment,

Recognizing the increasing need for the sheets of the International Map of the World on the Millionth Scale and the urgency for completing these maps at an early date,

Requests the Secretary-General to urge Governments to furnish their views on the draft proposal for amendments to the existing specifications for the International Map of the World on the Millionth Scale and, after considering the replies and in consultation with appropriate experts, to suggest specific recommendations for such amendments to the Council at its twenty-ninth session.

1064th plenary meeting,
23 April 1959.

C

The Economic and Social Council,

Having considered the report of the Secretary-General concerning international co-operation on cartography (E/3209 and Add.1-4),

Considering :

(a) That one of the purposes of the International Map of the World on the Millionth Scale is to permit planning with greater facility and exactness the economic and social development of all countries through the rational utilization of their natural resources,

(b) That modern cartography, based on aerial photography, can contribute effectively to that end by the exactness of the information which it provides,

(c) That a knowledge of the renewable natural resources of a country is the indispensable basis for planning the development and better utilization of such resources,

(d) That it would be helpful if Member States received at regular intervals the most recent information on the progress made with the Map ;

Requests the Secretary-General to consult technical organizations in that field with a view to studying the possibility of providing that future editions of the sheets of the International Map of the World on the Millionth Scale should, as far as possible, show the existing plant cover, by means of suitable symbols, and in accordance with a simple classification distinguishing such features as woods, arable areas, scrub, pasture land, areas of special cultivation, etc., and to report to the Council at an appropriate session on the results of his consultations.

1064th plenary meeting,
23 April 1959.

CHECK LIST OF DOCUMENTS

NOTE. This check list includes the documents mentioned during the consideration of agenda item 6 which are not reproduced in the present fascicle.

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/2362	Report of the Secretary-General [fifteenth session]	Mimeographed
E/2376	Means for furthering the completion of the International One-Millionth Map of the World: report of the Secretary-General [fifteenth session]	Ditto
E/2823	Report of the Secretary-General	<i>Official Records of the Economic and Social Council, Twenty-first Session, Annexes, agenda item 6</i>
E/L.821	Afghanistan: draft resolution	Replaced by E/L.821/Rev.1
E/L.821/Rev.1	Afghanistan and Pakistan: revised draft resolution	Adopted without change. For the text see resolution 714 (XXVII) above



Agenda item 7: Establishment by the Secretary-General of the United Nations of a list of national parks and equivalent reserves*

RESOLUTION ADOPTED BY THE ECONOMIC AND SOCIAL COUNCIL

713 (XXVII). Establishment by the Secretary-General of the United Nations of a list of national parks and equivalent reserves

The Economic and Social Council,

Noting that national parks and equivalent reserves have been established in most countries which are Members of the United Nations or members of the specialized agencies, and that they contribute to the inspiration, culture and welfare of mankind,

Believing that these national parks are valuable for economic and scientific reasons and also as areas for the future preservation of fauna and flora and geologic structures in their natural state,

1. Requests the Secretary-General to establish, in co-operation with the United Nations Educational, Scientific and Cultural Organization, the Food and Agriculture Organization of the United Nations, and

other interested specialized agencies, a list of national parks and equivalent reserves, with a brief description of each, for consideration by the Council at its twenty-ninth session, together with his recommendations for maintaining and developing the list on a current basis and for its distribution;

2. Invites States Members of the United Nations or members of the specialized agencies to transmit to the Secretary-General a description of the areas they desire to have internationally registered as national parks or equivalent reserves;

3. Furthermore invites the International Union for the Conservation of Nature and Natural Resources and other interested non-governmental organizations in consultative status with the Council to assist the Secretary-General, upon his request, in the preparation of the proposed list.

*1063rd plenary meeting,
22 April 1959.*

CHECK LIST OF DOCUMENTS

Note. This check list includes the documents mentioned during the consideration of agenda item 7 which are not reproduced in the present fascicle.

Document No.	Title	Observations and references
E/3188	United States of America: request for the inclusion of an item in the provisional agenda of the twenty-seventh session of the Council	Mimeographed
E/3190	United States of America: explanatory memorandum	Ditto
E/C.2/517	Statement submitted by the International Union for the Conservation of Nature and Natural Resources, a non-governmental organization in category B consultative status	Ditto
E/L.818 and Add.1-4	France, Mexico, Pakistan, Sudan, United Kingdom of Great Britain and Northern Ireland, United States of America and Venezuela: draft resolution	Adopted without change. For the text of this document, see resolution 713 (XXVII) above

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session, 1063rd meeting.*



Agenda item 8: International commercial arbitration *

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DOCUMENT E/3211

Note by the Secretary-General

[Original text: English]
[17 February 1959]

1. The United Nations Conference on International Commercial Arbitration, convened pursuant to resolution 604 (XXI) of the Economic and Social Council, adopted, in addition to the Convention on the Recognition and Enforcement of Foreign Arbitral Awards, a resolution on other possible measures for increasing the effectiveness of arbitration in the settlement of private law disputes.¹ Having considered various ways in which interested governmental and other organizations could make practical contributions to the more effective use of arbitration, the Conference expressed views in favour of the following measures:

(a) Wider diffusion of information on arbitration laws, practices and facilities;

(b) Where necessary, the establishment of new arbitration facilities and the improvement of existing facilities;

(c) Technical assistance in the development of effective arbitral legislation and institutions;

(d) The convening of regional study groups, seminars or working parties;

(e) The definition of suitable subject matter for model arbitration statutes, and the development of greater uniformity of national laws on arbitration.

2. The Conference expressed the wish "that the United Nations, through its appropriate organs, take such steps as it deems feasible to encourage further study of measures for increasing the effectiveness of arbitration in the settlement of private law disputes through

the facilities of existing regional bodies and non-governmental organizations and through such other institutions as may be established in the future", and suggested "that any such steps be taken in a manner that will assure proper co-ordination of effort, avoidance of duplication and due observance of budgetary considerations".²

3. A brief survey of the practical measures which might contribute to a more effective use of arbitration can be found in a note (E/CONF.26/6) submitted by the Secretary-General to the Conference. The views of the interested organizations on factors considered to stand in the way of the progress of arbitration, and their suggestions as to possible remedial measures, were summarized in a report (E/CONF.26/4) submitted to the Conference.³ The need for concerted action seems to be indicated mainly in the following areas.

4. *Wider diffusion of information on arbitration laws, practices, and facilities.* Information on arbitration laws and facilities is not at present available in an easily accessible, comprehensive and authoritative form. Two of the United Nations regional commissions and several

² *Ibid.*

³ Since the publication of these documents, the secretariat of the Economic Commission for Europe has prepared for consideration by the Commission's *Ad Hoc* Working Party of Experts on Arbitration a draft European convention on arbitration and draft arbitration rules for use in international contracts, aiming at the removal of some of the existing obstacles to arbitration caused by differences in the legal systems of the various countries and at assisting the parties to a dispute in the choice of impartial arbitration facilities. The Committee on Trade of the Economic Commission for Asia and the Far East considered an interim report on arbitral legislation in the countries of that region. Within the framework of the Council of Europe, a Committee of Experts on Arbitration was convened to study the desirability of concluding a convention or of preparing uniform rules governing arbitration of private law disputes.

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session, 1059th and 1060th meetings.*

¹ See United Nations Conference on International Commercial Arbitration, *Final Act and Convention on the Recognition and Enforcement of Foreign Arbitral Awards* (United Nations publication, Sales No.: 58.V.6), p. 5.

non-governmental organizations are engaged in the work of collecting and analysing information on this subject, but these projects cover only certain regions, vary in method of presentation and to some extent overlap. It would therefore seem desirable to encourage the interested organizations to pool their resources and to co-operate with each other in arrangements for compiling the relevant information on arbitration laws and facilities in a single authoritative publication. While the responsibility for such a publication would have to rest with those organizations, the United Nations Secretariat could be of assistance in its preparation by supplying information available to it, facilitating the verification of data from official sources, and providing such guidance as may be necessary to assure world-wide coverage and uniformity of presentation.

5. *Improvement of existing arbitration facilities.* The Governments and organizations concerned have the primary responsibility for taking any steps for the creation of arbitration centres in those countries or branches of trade where none are available at present, as well as for the improvement of existing institutional facilities which do not fully satisfy the requirements of international commercial arbitration because of their purely domestic character or other limitations. In addition, educational programmes may be desirable to promote among members of the business community knowledge about existing arbitration facilities, to encourage the use of arbitration clauses in commercial contracts and, where necessary, to acquaint potential arbitrators with the principles and techniques of arbitration. The endeavours to improve arbitration facilities and to carry out educational programmes might be facilitated and rendered more effective if the Governments and organizations concerned could draw on the experience gained in other regions where the use of arbitration is more common, and if they could readily obtain the required information material and technical advice from appropriate sources.

6. *Development of arbitral legislation.* Indications are that in some countries the legislative framework for arbitration is either lacking or inadequate. In other countries, practical problems may arise because arbitration is governed by different and often conflicting legal systems. Problems of this nature were, for instance, of considerable concern to the Working Party of Experts on Arbitration of the Economic Commission for Europe, and studies aiming at the development of generally acceptable standard provisions which could serve as models for multilateral conventions or for the enactment of uniform arbitral legislation are also being carried out by several intergovernmental and non-governmental organizations. It might be useful if, in order to avoid duplication and

assure proper co-ordination of effort, arrangements were made with the organizations concerned for an exchange of relevant documentation, and for apprising Governments of any significant results of studies which may be of interest to them in developing their national laws on arbitration.

7. Should the views expressed by the United Nations Conference on International Commercial Arbitration find approval in the Council, it might wish to give consideration to the following steps:

(a) It could recommend to the regional economic commissions which have not as yet included such a project on their programme of work to consider the desirability of undertaking a study of measures which could contribute to a more effective use of arbitration in their regions, along the lines of the projects undertaken by the Economic Commission for Europe and the Economic Commission for Asia and the Far East.

(b) It could express its support of the work of inter-governmental and non-governmental organizations active in the field of international commercial arbitration, and encourage them to co-operate with each other and with the United Nations organs concerned in: (i) arrangements for a wider diffusion of information on arbitration laws, practices and facilities; (ii) the establishment of new arbitration facilities or the improvement of existing facilities; (iii) educational programmes to promote knowledge about arbitration facilities and techniques; and (iv) studies aiming at a greater uniformity of arbitral rules and legislation.

(c) It could invite Governments: (i) to consider favorably any measures for improving the effectiveness of arbitral legislation and institutions in their country; (ii) to support and facilitate the work of interested organizations in the development of arbitration facilities and in other activities aiming at a more effective use of arbitration in connexion with international trade and investments; and (iii) to avail themselves of appropriate opportunities to obtain technical advice and assistance and to share the experience gained in countries having a long established practice in this field.

(d) It could request the Secretary-General to assist the Governments and organizations concerned in the implementation of the above-mentioned objectives, to the extent that he can do so within the limits of the available staff and financial resources. This would include, principally, guidance in co-ordinating the efforts of the organizations active in the field of international commercial arbitration and assistance in obtaining technical advice for Governments and organizations interested in developing arbitral laws and institutions.

DOCUMENT E/L.823/Rev.1

Costa Rica, Netherlands, Pakistan and United States of America: revised draft resolution

[Original text: English]
[16 April 1959]

The Economic and Social Council,

Recognizing the value of arbitration as an instrument for settling disputes,

Considering that increased resort to arbitration in the settlement of private law disputes would facilitate the continued development of international trade and investment,

Considering further that substantial contributions have been made to this end by measures designed to strengthen and promote the recognition of the legal status of international private law arbitration,

Recognizing that measures to improve the legal status of arbitration should be accompanied by measures in the fields of arbitral organization and procedure, by educational activity and by technical assistance, if arbi-

tration is to attain maximum usefulness in the development of international trade and investment,

Noting the resolution⁴ adopted by the United Nations Conference on International Commercial Arbitration on 10 June 1958, which recognizes the value of practical measures in these fields,

Believing that, in addition to the contributions of inter-governmental and non-governmental organizations, much can be done directly and immediately through the initiative of Governments and of arbitration organizations to increase the effective use of arbitration,

1. *Expresses the wish* that arbitral associations, whether constituted along local, trade, national or international lines, give particular attention and emphasis to educational activities, especially among business and professional groups, to the establishment of new arbitration facilities or improvement of existing ones, and to facilitating international private law and arbitrations ;

2. *Invites* Governments to consider sympathetically any measures for improving their arbitral legislation and institutions, to encourage interested organizations in the development of arbitration facilities and related activities, and to avail themselves of appropriate opportunities to

⁴ See United Nations publication, Sales No. : 58.V.6, p. 5.

obtain or to furnish, as the case may be, technical advice and assistance ;

3. *Suggests* that inter-governmental and non-governmental organizations active in the field of international commercial arbitration to co-operate with each other and with the United Nations organs concerned, especially in the diffusion of information on arbitration laws, practices and facilities, educational programmes, and studies and recommendations aiming at greater uniformity or arbitration laws and procedures ;

4. *Recommends* that the regional economic commissions of the United Nations which have not as yet included such a project in their programme of work consider the desirability of undertaking a study of measures for the more effective use of arbitration by member States in their regions ;

5. *Requests* the Secretary-General to assist, within the limits of available staff and financial resources, Governments and organizations in their efforts to improve arbitral legislation, practice and institutions, in particular by helping them to obtain technical advice and assistance from appropriate sources available for this purpose and by providing guidance to Governments and organizations concerned in co-ordinating their efforts and promoting more effective use of arbitration in connexion with international trade and investment.

RESOLUTION ADOPTED BY THE ECONOMIC AND SOCIAL COUNCIL

708 (XXVII). International commercial arbitration

The Economic and Social Council,

Recognizing the value of arbitration as an instrument for settling disputes,

Considering that increased resort to arbitration in the settlement of private law disputes would facilitate the continued development of international trade and other private law transactions,

Considering further that substantial contributions have been made to this end by measures designed to strengthen and promote the recognition of the legal status of international private law arbitration,

Recognizing that measures to improve the legal status of arbitration should be accompanied by measures in the fields of arbitral organization and procedure, by educational activity and by technical assistance, if arbitration is to attain maximum usefulness in the development of international trade and other private law transactions,

Noting the resolution⁴ adopted by the United Nations Conference on International Commercial Arbitration on 10 June 1958, which recognizes the value of practical measures in these fields,

Believing that, in addition to the contributions of inter-governmental and non-governmental organizations, much can be done directly and immediately through the initiative of Governments and of arbitration organizations to increase the effective use of arbitration,

1. *Expresses the wish* that arbitral associations, whether constituted along local, trade, national or international lines, give particular attention and emphasis to educational activities, especially among business and professional groups, to the establishment where necessary of new arbitration facilities or improvement of existing

ones, and to facilitating international private law arbitrations ;

2. *Invites* Governments to consider sympathetically any measures for improving their arbitral legislation and institutions, to encourage interested organizations in the development of arbitration facilities and related activities, and to avail themselves of appropriate opportunities to obtain or to furnish, as the case may be, technical advice and assistance ;

3. *Suggests* that inter-governmental and non-governmental organizations active in the field of international private law arbitration co-operate with each other and with the United Nations organs concerned, especially in the diffusion of information on arbitration laws, practices and facilities, educational programmes, and studies and recommendations aiming at greater uniformity of arbitration laws and procedures ;

4. *Recommends* that the regional economic commissions of the United Nations which have not as yet included such a project in their programme of work consider the desirability of undertaking a study of measures for the more effective use of arbitration by member States in their regions ;

5. *Requests* the Secretary-General to assist, within the limits of available staff and financial resources, Governments and organizations in their efforts to improve arbitral legislation, practice and institutions, in particular by helping them to obtain technical advice and assistance from appropriate sources available for this purpose and by providing guidance to Governments and organizations concerned in co-ordinating their efforts and promoting more effective use of arbitration in connexion with international trade and other private law transactions.

1060th plenary meeting,
17 April 1959.

CHECK LIST OF DOCUMENTS

NOTE. This check list includes the documents mentioned during the consideration of agenda item 8 which are not reproduced in the present fascicle.

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/L.823	Costa Rica, Netherlands, Pakistan and United States of America : draft resolution	Replaced by E/L.823/Rev.1



 Agenda item 9 : Report of the Population Commission *

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DOCUMENT E/3240

Report of the Social Committee

[Original text : English]
[22 April 1959]

1. The Social Committee, under the chairmanship of the Second Vice-President of the Council, Mr. Zahiruddin Ahmed (Pakistan), considered, at its 388th and 389th meetings on 21 and 22 April 1959 (E/AC.7/SR.388 and 389), item 9 of the Council's agenda (Report of the Population Commission) which was referred to it by the Council at its 1048th meeting held on 7 April 1959.

2. The Committee had before it the report of the Population Commission on its tenth session (E/3207 and Add.1).

3. In addition, the Committee had before it a draft resolution proposed by the Chairman which read as follows :

"The Economic and Social Council

"Takes note of the report of the Population Commission (tenth session) and endorses the work programme and priorities contained therein."

The Committee adopted this draft resolution unanimously.

4. The Committee also adopted unanimously draft resolutions A and B recommended by the Population Commission (E/3207, annex).

5. The Committee therefore recommends to the Council the adoption of the following draft resolutions :

[*Texts adopted by the Council without change. See resolution 721 (XXVII) below.*]

RESOLUTIONS ADOPTED BY THE ECONOMIC AND SOCIAL COUNCIL

721 (XXVII). Report of the Population Commission

B

DEMOGRAPHIC PILOT STUDIES

A

REPORT OF THE COMMISSION

The Economic and Social Council

Takes note of the report of the Population Commission (tenth session) (E/3207/Rev.1) and endorses the work programme and priorities contained therein.

*1066th plenary meeting,
24 April 1959.*

The Economic and Social Council,

Taking note of the section of the report of the Population Commission (tenth session) on demographic pilot studies (E/3207/Rev.1, paras. 33-36),

Reaffirming that it is essential to take demographic factors into account in planning economic and social development programmes, particularly in under-developed countries,

Recalling the importance attached by the Council to surveys of human and material resources and needs, with a view to facilitating the planning of economic development programmes for the under-developed coun-

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session, 1066th meeting*; and E/AC.7/SR.388 and 389.

tries, in accordance with its resolution 614 C (XXII) of 9 August 1956,

Bearing in mind the fact that many countries will be carrying out population censuses during 1960 and 1961, and the importance of utilizing the results of these censuses to facilitate the planning of development programmes for the under-developed countries, as well as for other purposes,

Requests the Secretary-General :

(a) To take the necessary steps, as soon as possible, to publish a report on the demographic pilot study carried out in co-operation with the Government of the Philippines ;

(b) To put at the disposal of the Governments of under-developed countries which may request it the co-operation of the United Nations in carrying out, over the next few years, a limited number of demographic pilot studies or other projects calculated to demonstrate the value of utilizing demographic data, and especially the results of censuses, in preparing and implementing development programmes ; such studies, carried out in accordance with the recommendations of the Population Commission, would also enable the methods of obtaining the data to be made known and perfected ;

(c) To obtain, in so far as this is desirable and feasible, the collaboration in such projects of the specialized agencies and other bodies concerned ;

(d) To report regularly to the Population Commission the progress made in these studies.

1066th plenary meeting,
24 April 1959.

C

DEMOGRAPHIC ASPECTS OF URBANIZATION AND INDUSTRIALIZATION WITH SPECIAL REFERENCE TO THE STUDY OF INTERNAL MIGRATION

The Economic and Social Council,

Taking note of the section of the report of the Population Commission (tenth session) on possibilities of international co-operation in studies of internal migration

in the less developed countries in the process of industrialization (E/3207/Rev.1, paras. 37-42),

Recognizing the importance of studies of internal migration in relation to economic and social development, especially in the countries in the process of industrialization,

Recalling that, in its resolutions 618 (XXII) of 6 August 1956 and 694 C (XXVI) of 31 July 1958, it had requested the Secretary-General to explore the possibilities of concerting international action in connexion with problems of urbanization which should complement the programmes of industrialization,

Considering the lack of knowledge and the inadequacy of reliable data with which to measure the phenomena of rural to urban migration and the contrary movement,

Requests the Secretary-General to develop studies of internal migration in relation to economic and social development, along the following lines :

(a) To offer the co-operation of the United Nations to less developed countries in the process of industrialization which are desirous of undertaking studies of the magnitude and characteristics of internal migration, especially between rural and urban areas, as a part of the programme of demographic studies recommended by the Population Commission ;

(b) In the development of these studies to take account of relevant social and economic changes associated with the processes of urbanization and industrialization, by observing conditions at first hand and with the co-operation of local organizations ;

(c) To invite the co-operation of the interested specialized agencies in this work as a part of the proposed programmes of concerted action in the fields of urbanization and industrialization ;

(d) To report to the Population Commission at its eleventh session on the progress made in implementing these requests.

1066th plenary meeting,
24 April 1959.

CHECK LIST OF DOCUMENTS

NOTE. This check list includes the documents mentioned during the consideration of agenda item 9 which are not reproduced in the present fascicle.

Document No.	Title	Observations and references
E/3207 and Add.1	Report of the Population Commission (tenth session)	Replaced by E/3207/Rev.1
E/3207/Rev.1	Report of the Population Commission (tenth session)	Official Records of the Economic and Social Council, Twenty-seventh Session, Supplement No. 3



Agenda item 10: Freedom of information:*

- (a) Report by the Secretary-General on media of information in under-developed countries (Council resolutions 574 D (XIX) and 643 (XXIII));
- (b) Relevant sections of the reports of the Commission on Human Rights, the United Nations Educational, Scientific and Cultural Organization and other specialized agencies, requested in General Assembly resolution 1313 A (XIII)

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DOCUMENT E/3204

Protection of news and other press information

Report by the Director-General of the United Nations Educational, Scientific and Cultural Organization

[Original text: French]
[30 January 1959]

The Secretary-General has received the following communication and report from the Director-General of the United Nations Educational, Scientific and Cultural Organization (UNESCO):

“ 21 January 1959

“ I have the honour to send you herewith a report on the protection of news and other press information.

“ The report was prepared in accordance with resolution 522 D (XVII), adopted by the Economic and Social Council at its seventeenth session, which invited UNESCO to initiate a study of copyright in respect of news and information and to formulate recommendations thereon.

“ I should be grateful if you would transmit the report to the Economic and Social Council at its twenty-seventh session under item 10 (Freedom of information) of its provisional agenda.

“(Signed) Vittorino VERONESE
“ Director-General ”

PROTECTION OF NEWS AND OTHER PRESS INFORMATION

1. This report is submitted in accordance with resolution 522 D (XVII), adopted by the Economic and Social Council at its seventeenth session, which reads as follows:

“ The Economic and Social Council,

“ Taking note of the complex problems arising from the lack of uniform copyright agreements, and the effect of this on the dissemination of information through the press, radio, television and films,

“ 1. Recommends to governments that they adhere to the Universal Copyright Convention;

“ 2. Takes note of the efforts being undertaken on the international level to solve the problems of performers' rights and draws the attention of governments to the importance of the protection of these rights to ensure freedom of information and to the interest attached to international action in this field; and

“ 3. Invites the United Nations Educational, Scientific and Cultural Organization to initiate a study of copyright in respect of news and information media and to formulate recommendations thereon.”

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session*, 1061st, 1062nd and 1066th meetings. See also E/AC.7/SR.387 and 388.

2. With regard to the last paragraph of this resolution, the Director-General of UNESCO deemed it advisable to consult the competent bodies, set up by the Universal Copyright Convention,¹ which, under the auspices of UNESCO, are dealing with copyright questions.

3. The Interim Copyright Committee² recommended the Director-General of UNESCO to prepare a report on the copyright protection granted to news and other press information by national copyright laws and international copyright treaties, and to submit it to the Intergovernmental Copyright Committee.³ After considering this report at its first session, held in Paris, in June 1956, the Intergovernmental Copyright Committee recommended the Director-General of UNESCO to "undertake a comprehensive study of the present position with regard to the regulation of news and other press information disseminated by means of the printed press, radio, television and films," and to obtain practical information by consulting the private or official associations and organizations concerned.⁴

4. Accordingly, the secretariat of UNESCO undertook an analysis of the laws governing the press, films, radio and television, from the standpoint of the protection of news. It also analysed the case law of certain countries. In order to collect practical information, it forwarded, through the National Commissions for UNESCO, to press agencies, radio and television stations and newsreel-producing organizations a questionnaire on the protection of news and other press information.

5. A report was prepared on the basis of the results of these analyses and consultations and of the analysis of national copyright laws and international conventions on copyright. This report was submitted to the Intergovernmental Copyright Committee at its second session, held in Washington in October 1957.⁵ The Committee decided to designate a consultant to examine all the documents collected by the secretariat of UNESCO and by the United International Bureaux for the Protection of Industrial, Literary or Artistic Property, and to submit recommendations concerning the possible courses of action which might be desirable in the international field.⁶

6. The consultant designated by the Chairman of the Intergovernmental Copyright Committee was Mr. W. Wallace, Assistant Comptroller, Industrial Property Department of the Board of Trade of the United Kingdom, and United Kingdom representative on the Committee. Mr. Wallace submitted his report to the Committee at its third session, held at Geneva in August 1958, and the following resolution was adopted by the Committee :

"The Intergovernmental Copyright Committee,

Considering the reports by Mr. Wallace, the UNESCO Secretariat, and the Bureau of the International Union for the Protection of Literary and

¹ See UNESCO, *Copyright Bulletin*, vol. V, No. 3-4, Paris, 1952, p. 30.

² The Interim Copyright Committee had been set up by the Director-General of UNESCO, in pursuance of a recommendation made by the Inter-governmental Copyright Conference, held at Geneva in 1952, pending the entry into force of the Universal Copyright Convention and the establishment of the Intergovernmental Copyright Committee under article XI of that Convention. The Intergovernmental Copyright Committee consists of representatives of twelve States, selected with due regard to fair geographical distribution; one-third of the members retire every two years.

³ UNESCO, document IGC/I/7 (29 May 1956).

⁴ UNESCO, document CUA/78 (26 July 1956), annex C, resolution No. IV.

⁵ UNESCO, document IGC/II/8 (30 July 1957).

⁶ UNESCO, document CUA/83 (5 December 1957), sect. C, resolution No. 10 (II).

Artistic Works, concerning the protection of news and other press information ;

"Expresses its thanks for the excellent information contained in these reports ;

"Considers that there is no reason to provide for a special protection of news and other press information through a new intellectual property right ;

"Recommends that the Director-General of UNESCO transmit Mr. Wallace's report, as approved by the Committee, to the Economic and Social Council of the United Nations." 7

7. The Director-General of UNESCO therefore has the honour to annex Mr. Wallace's report for submission to the Economic and Social Council. He wishes also to draw the Council's attention to the fact that the Permanent Committee of the International Union for the Protection of Literary and Artistic Works has also had this question on its agenda, and at its session in August 1958 adopted the following resolution :

"The Permanent Committee of the International Union for the Protection of Literary and Artistic Works,

"Having seen the reports by the Bureau of the Union, Mr. W. Wallace and the UNESCO Secretariat, concerning the protection of news and other press information,

"Expresses its thanks for the excellent information contained in these reports,

"Considers that there is no reason to provide for a special protection of news and other press information through a new intellectual property right,

"Requests the Swedish Government, as the Inviting Power of the next Conference of Revision, to examine in co-operation with the International Bureau, when establishing the programme of the said Conference, whether or in what form the improvement or the clarification of the protection of forms of expression of news and other press information in copyright could be included in the said programme,

"Is of the opinion that the protection of press agencies and other sources of news against unfair activities does not come within the scope of the Berne Convention, but might possibly fall under the provisions of the Paris Convention for the protection of industrial property."

Recommendations of the Director-General of UNESCO

8. The Director-General of UNESCO has the honour to submit the following recommendations concerning the question of the protection of news and other press information, in accordance with the request made to him by the Economic and Social Council.

9. The Director-General wishes, first of all, to emphasize the distinction drawn between the words (or pictures) by which facts are conveyed and the facts themselves.

10. With regard to the protection of facts, the Director-General agrees with the Intergovernmental Copyright Committee and the Permanent Committee of the International Union for the Protection of Literary and Artistic Works, that this question does not directly involve copyright.

11. It should be noted that, in the resolution quoted above, the Permanent Committee of the International Union for the Protection of Literary and Artistic Works

⁷ UNESCO, document CUA/90 of 31 October 1958, sect. B, resolution No. 20 (III).

took the view that the question of the protection of news might possibly fall under the provisions of the Paris Convention for the protection of industrial property relating to unfair competition. It should also be emphasized that news agencies and newspapers enjoy a certain protection under the national laws concerning unfair competition, breach of trust, unjust enrichment, etc.

12. With regard to the protection of the forms of expression of news, the Director-General agrees with the Intergovernmental Copyright Committee and the Permanent Committee of the International Union for the Protection of Literary and Artistic Works that there is no need to provide for a special protection through a new intellectual property right.

13. It should be emphasized that, in the resolution quoted above, the Permanent Committee of the International Union for the Protection of Literary and Artistic Works requested the Swedish Government, as the Inviting Power of the next conference for the revision of the Berne Convention, to examine, when establishing the programme of the said conference, whether or in what form the improvement or the clarification of the protection of forms of expression of news and other press information in copyright could be included in the said programme. The Director-General considers that the question of clarifying the scope of the protection accorded to forms of expression of news and other press information could, as indicated by the Intergovernmental Copyright Committee in the report attached hereto (annex, para. 20), be included in the agenda of a possible conference for the revision of the Universal Copyright Convention.

ANNEX

Report by Mr. W. Wallace

1. The Intergovernmental Copyright Committee, meeting in Washington from 7 to 12 October 1957, passed a resolution in the following terms:

"Resolution No. 10 (II)

"The Intergovernmental Copyright Committee,

"Considering the fact that the protection of news and other press information disseminated by means of the printed press, radio, television and films is at present ensured, in part, and with respect to certain means of dissemination, by international conventions on copyright, which does not mean, however, that such conventions are the only means which may be used in this field;

"Resolves:

"1. That a subcommittee composed of members to be designated by the Chairman of the Committee, or a consultant or consultants designated in the same manner, examine the documents which have been or may be collected by the Secretariat of UNESCO and the United International Bureau for the Protection of Industrial, Literary or Artistic Property;

"2. That this subcommittee or consultant or consultants submit a report to the next session of the Intergovernmental Copyright Committee;

"3. That this report deal with the possible courses of action which may be desirable in the international field."

2. In a letter dated 26 December 1957, the Chairman of the Committee designated me as consultant to the Committee on this matter to prepare, in a personal capacity, a report for the next regular session of the Committee: (a) summarizing the studies heretofore conducted, and (b) recommending possible courses of action which may be desirable in the international field.

3. Before reviewing the history of this matter I wish to formulate what seems to me to be the vital distinction, namely, that between, on the one hand, the words (or

pictures) in which facts are conveyed from one person to another, and, on the other hand, the facts themselves. I shall revert to this distinction later in this paper; but since it colours all that I have written I think it right to make it at the outset.

HISTORICAL

A. Studies by bodies concerned with copyright protection

(a) The Berne Union

4. In reviewing the history of this subject there can, I think, be no better starting point than the Berne Conference of 1885 which settled the terms of the Berne Convention of 1886 for the international protection of copyright. The object of that Convention was the protection of literary and artistic works. The Conference was, no doubt, faced with the question which, in the field of copyright, is an inescapable question: how much skill, labour, creative ability and artistry is required in order that something shall become a "work", and hence the subject of the protection given by the Convention. This is a question which, in my views, is not capable of solution by any general formula. The delegates meeting at Berne, however, were clear on one point. They did not consider that the protection of the Convention should cover "articles of political discussion, or ... the reproduction of news of the day or current topics [*faits divers*]", and in article 7 of the Convention they said so.

5. The Berlin Conference of 1908 for the revision of the Berne Convention resisted proposals to give to news a protection lasting twenty-four hours from its publication. But that Conference drew a distinction between articles on political topics, which were accorded protection (if claimed), and mere news, which continued to be denied protection. Subsequent revisions of the Convention have left news unprotected by a copyright, although it has been recognized at Conferences of Revision that there may be protection under national laws relating to unfair competition.

6. The delegates who met at Rome came near to putting a finger upon the vital distinction which I mentioned earlier in this paper. Indeed, one delegation proposed that the freedom to reproduce published news should be denied in the case of a word for word reproduction of information which had been presented in a form which gave it a "literary character". It is hardly surprising that the Conference was unwilling to import into the Convention a test of what was, or what was not, "literary" in the fine arts sense. The formula adopted was:

"The protection of the present Convention shall not apply to news of the day or to miscellaneous information which is simply of the nature of items of news." [article 9(3)]

(b) Inter-American Conventions

7. Three of the Inter-American Conventions protecting copyright mentioned the question of news and press information. The solution they provide is the same as that of the Berne Union: news and press information do not in general enjoy copyright protection (see, for example, the Washington Convention of 1946, article 6).

(c) Studies by the Copyright Unions' secretariats

8. I have had the advantage of reading papers on this matter emanating from both the Berne Union and the UNESCO secretariats; the former is a study dated 1 March 1958 by a Counsellor of the Bureau, entitled "Le régime juridique international des articles et notamment des nouvelles et autres informations de presse". The latter are reports dated 29 May 1956 and 30 July 1957, submitted to successive meetings of the Intergovernmental Copyright Committee of the Universal Convention. I am indebted to all of these for ideas and particularly in the case of the last two, for much of the information set out in this report. Both secretariats have made analyses of national laws touching on this topic. The UNESCO reports also give consideration to international conventions (copyright and otherwise), codes of ethics and contractual arrangements, and the answers to a questionnaire which was submitted to press agencies, radio and television authorities and newsreel producers. They give a much fuller and more comprehensive picture than I am called upon to give in this paper.

B. Studies by bodies concerned with the protection of industrial property

9. Article 10 bis (1) of the Paris Convention for the protection of industrial property (as revised) reads as follows:

"(1) Countries of the Union are bound to assure to persons entitled to the benefits of the Union effective protection against unfair competition."

10. Proposals have from time to time been made to include in this article some specific mention of the protection to be given for press news. For example, at the London Conference of Revision of this Convention in 1934, one delegation proposed prohibition of the unauthorized reproduction of press news for twenty-four hours from its first publication, and while it retains commercial value. A telling argument against the inclusion of such provision seems to me to be that article 10 bis is quite general in its terms and it would be anomalous to single out one industry — the press — in this way, when there may well be other industries which equally merit protection. The proposal was not adopted and article 10 bis remains general in its application.

C. The Samaden proposals

11. I do not propose to review all the proposals to and resolutions adopted by the many international meetings which have considered this subject, save to say that their general tenor has been to recommend a protection for those who collect and purvey news to the public against competitors who "misappropriate", "unfairly exploit" or use "illicit means". But the experts who met at Samaden in 1939 under the auspices of the Rome International Institute for the Unification of Private Law produced a draft convention on the protection of news of which mention must be made. This draft was intended to be confined to the Berne Union countries. Article 2, like article 4 of the Berne Convention, provided for national treatment. Then the conventional minima of protection which all signatory countries were obliged to grant were set out in article 5:

"The enterprises and agencies mentioned in article 2 shall enjoy the right to require observance of the following rules:

"(a) Press information may not be reproduced without indication of its source;

"(b) It may not be reproduced by a third party before publication if it has been obtained by illicit means."

12. It is worth remembering that the delegates who met at Brussels to revise the Berne Convention had these proposals before them. Nevertheless they made no change in article 9 (3) of that Convention, which continued and still continues to refuse protection to "news of the day".

The essence of the problem

13. As I have said earlier in this paper and as many people more eminent than myself have said before me, copyright deals with the protection of *works*. As a reward for creation the creator is given a monopoly in the child of his brain. So far as I am aware no country seriously attempts to apply a test of literary or artistic merit to decide the question whether or not a given work shall receive protection. If an author writes a work of fiction it is reasonably easy for a court to say when his brain-child has been pirated from him by another. But when he sets out facts it is more difficult for a court to decide what property of his falls to be protected. A novelist creates the plot of his novel as well as the sequence of words in which he tells it. A newspaper reporter does not in any sense create the facts, which, albeit in his own words, he tells to his readers. A fact is something which is inescapably in the public domain from the moment it happens and it is illogical as well as impracticable to confer a property right in the nature of copyright in that fact upon anyone for however short a time.

14. But different considerations obtain when one considers the words the reporter uses to express the facts. Who would say that the words used by a modern Goethe or Shakespeare reporting the final of the World Cup Football Match or Baseball Series were unworthy of protection. The fact that the match was won by Team A and the goals were

scored by X and Y is anyone's property and something which anyone can reproduce; it will, in any case, usually be difficult to prove the source from which he got them. But it is quite another matter for a rival newspaper to copy word for word the original reporter's language.

PROTECTION NOW AVAILABLE

Protection for the expression of news

15. This expression may be by means of the written word (newspapers and periodicals), the spoken word (broadcasts) or pictures (photographs and news-reels).

(a) *The written word*

16. It is significant that the words used in paragraphs (2) and (3) of article 9 of the latest revision of the Berne Convention are different. Paragraph (2) allows for protection (if claimed) for "articles" on certain current topics (*les articles d'actualité*) and I stress the word *articles*. Paragraph (3) on the other hand, which denies protection, does not mention the word "articles", but speaks simply of "news of the day or miscellaneous information having the character of mere items of news" (*La protection de la présente Convention ne s'applique pas aux nouvelles du jour ou aux faits divers qui ont le caractère de simples informations de presse*). From this difference in wording it is at least arguable that the only things denied protection in paragraph (3) are the facts themselves and not the expression of those facts. However that may be, a large number of the countries of the world in fact draw no distinction, in their copyright laws, between fiction and reports of current events, from which we may deduce that words used to express news have the same protection as words used to express other things; and in those countries whose laws deny protection to news of the day, it seems to me to be the facts themselves rather than the reporter's words which it is intended should be denied protection.

(b) *The spoken word*

17. When news is broadcast, the words used by the commentator have almost invariably been first reduced to writing. The commentator reads them from a written script. That being so, the same considerations apply to these broadcasts as to the spoken word.

(c) *Pictures*

18. Under this category must be considered news photographs and news-reel films whether reproduced in journals, shown on a cinema screen or in television broadcasts. Both the Brussels Convention and the Universal Copyright Convention mention the protection of cinematographic works and photographic works. In neither case is any specific exception provided for news photographs and news-reels. It is probably true to say that the great majority of the countries of the world which protect copyright at all protect, by means of their copyright laws, this means of expressing news.

Protection available for facts

19. Although, as I have said, it seems clear to me that it is inappropriate to confer on anyone a copyright in a fact, this does not mean that the news agencies and the newspapers are refused all protection in this field. On the contrary a certain protection is assured to them by the doctrines of unfair competition, breach of confidence, unjust enrichment and the like. These remedies may be sought and found by reliance on the general provisions in the civil codes of many countries and in the common law of others. The justification for the protection given is, of course, the volume of effort and capital employed in the collection of the facts. The courts have been alive to protect the news agencies in question, not by giving them a copyright in the facts they have thus assembled, but by forbidding competitors who have gained access to the facts by some illicit or unfair means to make use of them for their own gain in competition with the original news agency. In at least nine of the countries of the world the courts have given this kind of protection; and I have little doubt that in the majority of the other countries the courts would give protection on these lines if it were sought.

POSSIBLE COURSES OF ACTION IN THE INTERNATIONAL FIELD

(a) To give better protection to the means of expression of news

20. The problem of the protection of the means of expressing news is, in my view, a copyright problem. The problem of the protection to be given to news agencies and newspapers for the energy and capital expended in their collection of facts is not. It may be that when the Berne Convention falls to be revised again consideration could be given to making clearer exactly what is meant by the words of article 9(3) and in particular whether it is really intended that the words used by a man writing fiction, however lacking in literary merit, should be protected, whereas those of a man writing about current events, however erudite, witty and stylish, should not. Again, if and when the Universal Copyright Convention incorporates into its text substantive minimal protection which member countries are obliged to grant, I would hope that the distinction which I have stressed throughout this paper will be present in the minds of the delegates and they will provide accordingly. But there is no room, in my view, for a third copyright convention dealing with this subject. The means of expression of news should be protected within the framework of the existing copyright conventions or not at all.

(b) To give better protection to those who assemble facts

21. Since I am a copyright lawyer and since, in my view, this is not directly a copyright problem, I am treading here on dangerous ground. But much guidance is to be obtained from the replies to the questionnaire, sent out by the UNESCO secretariat, which I have mentioned above. This questionnaire produced replies from 34 press agencies, 12 broadcasting authorities and 7 news-reel producing organizations in a total of 17 countries. The broadcasting authorities and news-reel producers were almost all satisfied with the protection at present available to them. Some were actively opposed to any further regulation of the protection of news. The press agencies seemed to be divided on the matter, some favouring further protection and some being against it. There certainly seems to be no wide-spread agreement on the kind of further protection which would be desirable.

22. I have mentioned above the Samaden proposals. These are perhaps the most fully thought out ideas on this subject which have so far been promulgated internationally. They amount in essence to three proposals:

- (1) The grant of national treatment;
- (2) Acknowledgment of the source;
- (3) No reproduction of news obtained by "illicit" means.

23. Of these it appears to me that national treatment presents no problem. There must be few, if any, countries which distinguish between their own nationals and foreigners when deciding what protection should be given in this field. With regard to the use of "illicit" means, most countries do, in fact, protect news agencies under their general laws on unfair competition, unjust enrichment and the like against the sort of practices aimed at here. The difficulty is, of course, to define exhaustively what, in this context, is, or is not, "illicit"; and this the experts at Samaden felt compelled to leave to national legislation (article 6(1)).

24. There remains, therefore, the question of acknowledgment. Acknowledgment of the source of quotations lifted word for word by one publication from another is, in my view, desirable. The Brussels Convention (in articles 9(2) and 10(3)) recognizes this and provides accordingly. But

I am now considering not a question of lifting word for word quotations, but one of acknowledging the source from which a fact was gleaned. Once a fact is published it is necessarily imprinted on the memories of many people. Suppose the second periodical learns of it, not directly from the first, but from someone else who so learned it. Is acknowledgment then to be required, and if so who is to be accorded the credit? Once a fact is published the original newspaper proprietor would have considerable difficulty in proving that a second newspaper proprietor acquired knowledge of the fact directly from him. Acknowledgment alone, therefore, would certainly not seem to warrant an international agreement.

25. Having reviewed the subject as a whole, therefore, I am far from convinced that there is sufficient agreement on general principles or indeed sufficient demand, even amongst news agencies, to warrant the convocation of a meeting of representatives of governments to draft a convention on this subject. This does not, of course, mean that resolutions formulated either in the past or in the future by interested non-governmental organizations, international conferences of press experts, congresses on radio and the like, should not be given due weight. Their recommendations would, in any case, provide most valuable indications, to "news users", of what was generally considered to be "unfair". But until it is more fully demonstrated:

- (a) that an international problem exists; and
- (b) that there are some generally acceptable provisions which, if translated into national laws, would cure the problem,

I do not think that an international meeting of governments or indeed any other intergovernmental action is called for.

26. Finally, I should, I think, draw attention to the circumstances in which this matter appeared on the agenda of the Intergovernmental Copyright Committee. The Economic and Social Council of the United Nations, after studying a report on freedom of information compiled by a specially appointed rapporteur, decided, by its resolution 522 D (XVII), to invite "the United Nations Educational, Scientific and Cultural Organization to initiate a study of copyright in respect of news and information media and to formulate recommendations thereon".

27. It is clear that it was the desire of the Economic and Social Council to promote rather than to hinder the flow of information from one country to another. I need not, I think, go into the arguments which from time to time take place when copyright is under consideration, as to whether the grant of international protection on balance promotes or hinders the wide circulation of creative works such as books and music. It is sufficient to say that when, as here, it would be a case of increasing the power of the collectors of facts to restrain their reproduction, the effect could very well be exactly contrary to the main aim of the Economic and Social Council, which was to make information as freely available as possible.

28. A famous editor of the British newspaper the *Manchester Guardian* made the often quoted saying "Comment is free; facts are sacred". His meaning was, of course, that no newspaper should distort or suppress the facts, though it must remain free to comment on them as it will. But so far as copyright protection is concerned I suggest that this maxim should be exactly reversed. It is the facts which should be free, whereas the words of comment by the journalist merit protection in the same way as the words of other writers.

DOCUMENT E/3205 AND ADD.1
Media of information in under-developed countries
Report of the Secretary-General

[Original text: English]
[2 February 1959]

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I. INTRODUCTION

1. In paragraph 1 of its resolution 574 D (XIX) the Economic and Social Council requested the Governments of States Members of the United Nations and of those non-member States which are members of a specialized agency to transmit to the Secretary-General, in so far as they had not done so,

“(a) Information on the media of information existing in their territories;

“(b) Information on existing measures and plans, including any based on the recommendations made in Council resolution 522 K (XVII), for the development of information media, on measures undertaken towards the implementation of such plans and on difficulties which they are meeting in implementing them;

“(c) Recommendations and suggestions regarding possible action on the international plane for the development of media of information of under-developed countries.”

2. In paragraph 2 of the same resolution, the Council also requested the Secretary-General:

“... in consultation with the United Nations Educational, Scientific and Cultural Organization, to prepare an analysis of the information and recommendations received from Governments and to present on the basis of this analysis elements necessary for the formulation by the Council of a programme of concrete action and measures on the international plane which could be undertaken for the development of information enterprises of under-developed countries, with an evaluation of the material, financial and professional requirements and resources for the implementation of this programme.”

3. Pursuant to the above-mentioned resolution the Secretary-General presented to the Council a report (E/2947 and Add.1) on the problem of developing media of information in under-developed countries. After considering this report, the Council, in paragraph 2 of its resolution 643 (XXIII), requested States Members of the United Nations or members of the specialized agencies which had not done so, to transmit to the Secretary-General the information requested in paragraph 1 of resolution 574 D (XIX). In paragraph 3 of resolution 643 (XXIII), the Council also invited the Secretary-General to complete, in co-operation with the specialized agencies as appropriate, and submit to the Council, not later than its twenty-seventh session, the analysis requested in paragraph 2 of resolution 574 D (XIX), taking into account any recommendations which the Commission on Human Rights might make as a result of its con-

sideration of the problem of media of information in under-developed countries.

4. The present report summarizes the information received from Governments and discusses the problem of presenting to the Council “elements necessary for the formulation ... of a programme of concrete action”.

II. ADDITIONAL REPLIES RECEIVED FROM GOVERNMENTS

5. Pursuant to paragraph 2 of resolution 643 (XXIII), the Secretary-General on 18 June 1957 addressed a *note verbale* to Governments of States Members of the United Nations or members of the specialized agencies. Following is a summary of information, comments and suggestions forwarded by Governments in reply to this *note verbale*.⁸ Suggestions made by Governments concerning possible action in this field on the international plane are given in full.

Argentina

The Government of Argentina transmitted statistical information relating to news agencies and newspapers, periodicals and other publications in Argentina.

Australia

The Government of Australia forwarded a statement relating to information media in the Territories of Nauru, Papua and New Guinea. As regards possible action on the international plane, the Government stated:

“The Administration of Papua and New Guinea feels that it would be helpful if the United Nations could provide a bibliography of publications and studies of mass media communications with reference to semi-illiterate peoples.”

Austria

The Government forwarded information concerning radio and television transmitting stations and radio and television sets in Austria. With regard to existing measures and plans for the development of information media, the Government stated:

“According to a criterion adapted by UNESCO concerning physical equipment for communication to keep the inhabitants fully informed of events at home and abroad (cf. document E/2947 of 4 January 1957), a country is regarded as inadequately supplied if there are less than five radio receivers per hundred inhabitants. On this basis Austria with the number

⁸ The full texts of the replies are available at the Secretariat for consultation.

of radio listeners shown ... is very well supplied with radio news bulletins. Existing measures and plans for further development are concerned mainly with the improvement of the quality of radio reception. Little is being done in Austria in the way of plans catering for persons who do not yet receive radio news—at any rate home news. Initial steps for such planning have, however, been taken by the *Oesterreichischer Rundfunk*.”

With regard to recommendations and suggestions regarding possible action on the international plane for the development of media of information in under-developed countries, the Government stated:

“No recommendations or suggestions can be made regarding possible action on the international plane for the development of media of information in under-developed countries, because little is known in Austria about conditions in the countries concerned.”

Ceylon

The Government of Ceylon stated that it had nothing further to add to the information which it transmitted to the Secretary-General pursuant to Economic and Social Council resolution 574 D (XIX) (see E/2947, paras. 63 and 64).

China

The Government transmitted information concerning newspapers, motion picture studios and theatres, broadcasting stations and receiving sets, and institutions for training newspaper workers in Taiwan. With regard to the plans which the Government has for the development of information media and the difficulties in implementing those plans, the Government stated:

“The Chinese Government has formulated plans for the development of information media, to be carried out progressively over a number of years. The size of newspapers has been restricted because of the shortage of newsprint supply, but help and guidance are given to the newspapers to improve the quality of their contents, to encourage newspaper workers to seek advanced training abroad, and to modernize printing equipment.

“Acting on the same principle, help and guidance are also given to the thirty-six Government and private news agencies in the Province. As a result of this policy, some privately owned news agencies have opened branch offices abroad serving local subscribers.

“The Chinese Government pays special attention to audio-visual information media, including radio broadcasting and motion pictures. It appropriates large sums of money annually to help these media to increase their equipment, train personnel, and improve their quality.

“Difficulties encountered in the implementation of these plans are mainly in the fields of money, personnel, and technical knowledge. The greatest handicap is the shortage of money which makes it impossible to acquire new equipment.”

With regard to the development of information media in under-developed countries by international action, the Government stated:

“The Chinese Government favours the development of information media in under-developed countries by international action. It believes the efforts made by the United Nations Educational, Scientific and Cultural Organization in this field should be further strengthened. In particular, the plan to despatch experts, on the request of Member States, to help under-developed countries in the development of information media and

the training of personnel should be greatly expanded. UNESCO and the other organizations concerned should also call regional conferences attended by information personnel in the area to discuss common problems concerning information media in the area and the ways of solving these problems.”

Denmark

The Government provided statistical and other data on the press and broadcasting in Denmark. It further stated that:

“Contrary to the rest of the Danish daily press, the Greenland papers receive support from the Government owing to the fact that they are considered to be of educational value in the huge, thinly populated area.

“.....

“Apart from the financial support for the Greenland press mentioned above. Danish governmental authorities have taken no steps to develop the daily press in Denmark. Neither are there any plans in this direction, as this is considered a matter entirely up to the press itself.

“The Federation of Danish Newspapers states that it has no special proposals to put forward but that the Danish press as a whole undoubtedly would participate in establishing a free and independent press in the regions in question by providing study possibilities in Denmark for groups of fellows or individual students from the said regions.”

Dominican Republic

The Government referred to constitutional provisions relating to freedom of information in the Dominican Republic.

India

The Government transmitted a note on media of information in India, describing the state of development of the press, broadcasting, pictures and publications, films, visual publicity and facilities for travel, together with relevant appendices relating to such matters as postal and press telegram rates, regulations governing the importation of pictures, directives regarding the censorship of films, etc. With regard to measures and plans for the development of information media and recommendations and suggestions regarding possible action on the international plane towards their development in the under-developed countries, the Government stated:

“*News agencies:*

“The two national news agencies in India—the Press Trust of India and the United Press of India—are still in the process of expansion. While, with release of teleprinter channels after World War II, it has been possible for them to improve distribution arrangements within India, the restriction of revenue through lack of a sufficient number of newspaper subscribers and the cost of distribution—as most of the equipment such as teleprinter machines have to be imported—impede expansion within India to district level; in the international field, the lack of resources prevents adequate coverage of news even from countries adjacent to India. The system of tariffs for press messages from abroad has also contributed to restricting the flow of news into India to one or two main channels, for the great part to only one channel, namely, from London. As an example of differential international cable rates which accentuate lack of balance in the flow of news, the existing press rates

on international cable communications between India and other countries may be seen in appendix II [to this note]. India is taking steps by negotiating with the countries concerned to bring about a substantial reduction in the press rates between India and certain other countries.

"United Nations may take the initiative to establish an international convention to ensure low press cable rates like the penny-a-word rate subsisting in the British Commonwealth, as the high press cable rate is the biggest obstacle to the free flow of information between nations.

"In the sphere of home news, any technical assistance for the adaptation of communications for the transmission of messages in different languages will help the rapid development of the Indian press and Indian language news agencies.

"Advisory services :

"United Nations may provide advisory services in the field of information without any conditions being laid down as in General Assembly resolution 926 (X) that these would be provided if similar services are not made available by specialized agencies. Nor should any financial obligations be imposed on the States desiring technical services.

"The awarding of fellowships to correspondents of Indian news agencies, enabling them to train abroad, even for a limited period in world agencies or large national agencies, would undoubtedly help to improve the operation of the Indian agencies.

"Newsprint :

"The most important of the physical facilities is newsprint for which India is largely dependent on foreign countries. Any efforts for equitable distribution of newsprint would go a long way to promote free flow of information.

"Equipment and skilled workers :

"There is no capacity in India or in many Asian countries at present for the manufacture of printing and composing machinery suitable for printing newspapers. Any efforts made by United Nations to remedy the situation would be most welcome.

"Receiving sets :

"Manufacture of low-cost receiving sets suited to conditions in different countries not highly developed can considerably help the dissemination of information.

"Books and pamphlets :

"Distance and language barriers now stand in the way of effective sharing of knowledge and experience. The need for a central bureau which could translate and circulate information contained in books and pamphlets is a very real one. That the greatest contribution to lasting and permanent understanding between countries can be made by translation and publication in different languages of important works is self-evident; the opening of libraries devoted to books and literature is in the same order of importance.

"Films :

"India, though one of the largest film-producing countries in the world, is still dependent on imports from foreign countries in respect of its various basic requirements. The annual requirement of raw film of the industry is about 260 million feet. A proposal is under consideration of the Government for the setting up of a plant for the manufacture of raw film in the country.

"In the matter of studio, laboratory and projection equipment, India is still largely dependent on foreign

imports, and assistance from other countries in respect of the equipment will be helpful. Processing facilities in the case of colour films are inadequate and technical assistance is needed for the establishment of laboratories for the purpose.

"Broadcasting :

"There was intense activity and steady progress in the field of broadcasting in India, along two directions, viz., the completion of some of the projects of the First Five Year Plan of Development of Broadcasting in India and the commencement of work on the projects of the first year of the Second Five Year Plan. The Planning Commission has approved a sum of Rs. 9 crores for the Second Five Year Plan which has for its aim the strengthening of the services of All-India Radio.

"The important projects completed during the period 1956-1957 include the installation of our 20 kw. medium-wave transmitters, one each at Delhi (1 June 1956), Trichur (4 November 1956), Patna (2 December 1956) and Vijayawada (9 December 1956). This provides Kerala, Bihar and Andhra Pradesh with extended medium-wave coverage and additional coverage for the programmes on the second channel from Delhi. The first of a series of transmitters to be received from Australia under the Colombo Plan was installed in Delhi and inaugurated on 30 March 1957.

"A new pilot broadcasting station, complete with studio and receiving centre facilities, was inaugurated in Bhopal on 31 October 1956. This station is linked by telephone lines with the Indore Station. A 10 kw. short-wave transmitter has also been installed at Gauhati.

"A new 100 kw. short-wave transmitter at Bombay has already started radiating External Service programmes from 22 March 1957 and the installation of another 100 kw. short-wave transmitter is nearing completion at Madras. Both these transmitters are intended to carry a special All-India variety programme of popular interest which can be heard throughout the country in addition to augmenting the transmitting facilities for some of the external broadcasts of All-India Radio.

"The reorganization that was planned and carried out during the First Five Year Plan was many-sided. In order to extend and consolidate the coverage given by the transmitters of All-India Radio, further additions are proposed to be made in the Second Five Year Plan."

Norway

The Government forwarded a statement by the Norwegian State Broadcasting Station concerning radio broadcasting facilities in Norway together with suggestions for providing, in Norway, "better news service, in the broadest sense of the term, from different countries throughout the world".

Tunisia

The Government of Tunisia forwarded information concerning press, radio and motion picture facilities in Tunisia. The Government also forwarded a booklet concerning the production and distribution of motion pictures in Tunisia.

United Kingdom of Great Britain and Northern Ireland

The United Kingdom Government stated that it had little to add to information already supplied. It drew attention to replies which territories for which the Government is responsible had returned to UNESCO

questionnaire ST/Q/8, and attached a handbook on broadcasting in British territories.

Yugoslavia⁹

On 2 March 1959, the Government of Yugoslavia forwarded data showing the progress which has been made during the last three years through the importation of machines for the needs of printing houses and newspaper enterprises. The Government pointed out, however, that:

"No purchases of the newest equipment have been made, as for instance installations for a rapid receiving of information in pictures and words, and only one telesetter has been imported into Yugoslavia to date although this type of typesetting machine would be the best suited for our newspaper enterprises. The progress achieved is still a relative one, since the needs have greatly increased."

III. OTHER DEVELOPMENTS

(a) Commission on Human Rights and General Assembly

6. At its thirteenth session, the Commission on Human Rights appointed a Committee on Freedom of Information consisting of the representatives of France, India, Lebanon, Mexico and Poland, for the purpose of reviewing the work on freedom of information already done by the various organs of the United Nations and by the specialized agencies, recommending where necessary the steps which should be taken to bring that work to the attention of Members of the United Nations and reporting to the Commission at its fourteenth session on the action that should be undertaken to develop information media and improve their utilization and to promote the widest possible implementation of the recommendations and decisions of the United Nations in that field.¹⁰

7. The Committee on Freedom of Information submitted a report (E/CN.4/762 and Corr.1), in paragraph 9, sub-paragraphs (a) to (f), of which it drew the attention of the Commission on Human Rights to "various suggestions and points" contained in a preparatory study on the development of media of information in under-developed countries, prepared by the representative of India on the Committee and annexed to that report.

8. The General Assembly, in resolution 1189 B (XII), requested the Economic and Social Council, among other things, to invite the Commission, when examining the report of its Committee on Freedom of Information, "to give special consideration to the problem of developing media of information in under-developed countries" and to transmit to the General Assembly at its thirteenth session the report of the Commission on those matters, together with the Council's recommendations thereon.

9. The Council transmitted the above-mentioned resolution of the General Assembly to the Commission on Human Rights. The Commission, after considering its Committee's report, adopted resolution 6 (XIV), requesting the Economic and Social Council and, through it, UNESCO and the other specialized agencies concerned to initiate action to consider and implement the suggestions of the Committee concerning under-developed countries wherever possible and as expeditiously as possible, with the object of assisting them to build up adequate media of information and their use for the free flow of adequate and undistorted news and information. The Commission requested that reports from

UNESCO and other specialized agencies on the work undertaken in accordance with this request, and on the problems which arose in the process, should be transmitted to it for consideration at its fifteenth session. After discussing the section of the report of the fourteenth session of the Commission on Human Rights dealing with freedom of information,¹¹ the Council adopted resolution 683 C (XXVI), no action being taken on the recommendations of the Commission concerning the development of media of information in under-developed countries. The Commission was requested to complete, at its fifteenth session, its recommendations on freedom of information in the light of its Committee's report and the comments thereon by Governments, specialized agencies and non-governmental organizations concerned.

10. At its thirteenth session, the General Assembly adopted resolution 1313 A (XIII), the operative paragraphs of which read as follows:

"1. Expresses the hope that the Economic and Social Council, on the basis of the analysis to be prepared by the Secretary-General in response to Council resolution 574 D (XIX) of 26 May 1955 and 643 (XXIII) of 25 April 1957, and taking into account recommendations of the Commission on Human Rights to be submitted in response to Council resolution 683 C (XXVI) of 21 July 1958, will formulate at its twenty-eighth session a programme of concrete action and measures on the international plane which could be undertaken for the development of information enterprises in under-developed countries, with an evaluation of the material, financial and professional requirements and resources for implementation of this programme;

"2. Invites the Economic and Social Council to request the Commission on Human Rights to give particular attention to procedures by which constant review of the problems of providing technical assistance to under-developed countries in the field of information may be assured, and to report regularly to the Council on progress in this field;

"3. Invites the United Nations Educational, Scientific and Cultural Organization and other specialized agencies as appropriate to formulate concrete proposals to assist in meeting the needs of less developed countries in building up adequate media of information, and to include an account of their efforts on this and other aspects of freedom of information in their annual reports to the Economic and Social Council."

(b) UNESCO Regional Seminar on Education for Journalism in Latin America (Quito, 29 September to 3 October 1958)

11. At the request of the secretariat of UNESCO, the experts who attended the Regional Seminar on Education for Journalism in Latin America, which UNESCO organized in Quito in September-October 1958, exchanged ideas on problems concerning the development of information media in Latin America and in particular on the importance of these to economic and social development. The experts formulated ideas relevant to the development of the press, news exchanges, broadcasting, television and the cinema in Latin America.

IV. ELEMENTS FOR THE FORMULATION OF A PROGRAMME OF CONCRETE ACTION

12. Members of the Council will recall that in chapter V of his previous report (E/2947), the Secretary-General discussed the problems he had encountered in

⁹ The reply of the Government of Yugoslavia was distributed as document E/3205/Add.1, dated 10 March 1959.

¹⁰ See *Official Records of the Economic and Social Council, Twenty-fourth Session, Supplement No. 4*, para. 205.

¹¹ *Ibid.*, *Twenty-sixth Session, Supplement No. 8*, chap. V.

implementing the task, requested of him in Council resolution 574 D (XIX), of presenting the Council with an analysis of the information and recommendations received from Governments and drawing up, on the basis of this analysis, "elements necessary for the formulation by the Council of a programme of concrete action" in this field.

13. The Secretary-General noted that he did not believe it was possible, on the basis of the replies received from Governments, to present the Council with a useful statement in this respect. In addition, the Secretary-General found it difficult to evaluate, as requested by the Council, the material, professional and financial requirements and resources for the implementation of this programme.

14. The further replies received from Governments pursuant to Council resolution 643 (XXIII) contain a number of interesting ideas and complement the information and suggestions previously forwarded. It may be noted that machinery for the implementation of some of these ideas is already available from the United Nations and specialized agencies under the existing programmes of technical assistance. In this connexion, it will be recalled that the Council drew attention to the availability of such assistance in paragraph 4 of its resolution 643 (XXIII).

15. The Secretary-General still does not feel, however, that the body of information, suggestions and ideas contained in the replies permits him to discharge in a practical and realistic manner the Council's original request to present "elements necessary for the formulation by the Council of a programme of concrete action and measures on the international plane which could be undertaken for the development of information enterprises of under-developed countries, with an evaluation of the material, financial and professional requirements and resources for the implementation of this programme".

16. In the meantime, as noted in paragraph 10 above, the General Assembly, at its thirteenth session, adopted resolution 1313 A (XIII) which relates specifically to the subject of the development of information media in under-developed countries. In this resolution, among other things, the Council was invited to request the Commission on Human Rights "to give particular attention to procedures by which constant review of the problems of providing technical assistance to under-developed countries in the field of information may be assured, and to report regularly to the Council on progress in this field". It will be recalled that at its resumed twenty-sixth session the Council took action aimed at ensuring that the report of the Commission on Human Rights on its consideration of this problem would be before the Council at its twenty-seventh session.

DOCUMENTS E/3206 AND ADD.1

Media of information in under-developed countries

Observations and proposals received from specialized agencies

Document E/3206

[Original text: English]
[5 February 1959]

The Secretary-General has the honour to submit herewith to the Economic and Social Council observations and proposals received from specialized agencies in accordance with Council resolution 643 (XXIII) concerning the Secretary-General's report on the development of media of information in under-developed countries, and with General Assembly resolution 1313 A (XIII) inviting the specialized agencies to "formulate concrete proposals to assist in meeting the needs of less developed countries in building up adequate media of information, and to include an account of their efforts on this and other aspects of freedom of information in their annual reports to the Economic and Social Council".

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION (UNESCO)

Letter dated 23 January 1959 from the Director-General of UNESCO to the Secretary-General

... I should be grateful if you could transmit to the Council at its twenty-seventh session the attached memorandum on "Development of media of information in under-developed countries".

I have no comments to offer on the draft report although I might note that the attached memorandum describing UNESCO's activities and plans in this field is in many respects complementary to it.

DEVELOPMENT OF MEDIA OF INFORMATION IN UNDER-DEVELOPED COUNTRIES

Memorandum by the Director-General of UNESCO

I. INTRODUCTION

1. The Director-General of UNESCO submits this memorandum in response to a communication from the Secretary-General of the United Nations inviting UNESCO's views on measures which might be taken to develop media of information in under-developed countries. The memorandum is submitted pursuant to the following resolutions:

2. (a) General Assembly resolution 1313 A (XIII), adopted by the Assembly at its thirteenth session, inviting "the United Nations Educational, Scientific and Cultural Organization and other specialized agencies as appropriate to formulate concrete proposals to assist in meeting the needs of less developed countries in building up adequate media of information"; and

3. (b) Economic and Social Council resolutions 574 D (XIX) and 643 (XXIII), requesting the Secretary-General, in consultation with UNESCO, to prepare on the basis of information and recommendations received from Governments the "elements necessary for the formulation by the Council of a programme of concrete action and measures on the international plane ... with an evaluation of the material, financial and professional requirements and resources for the implementation of the programme".

4. The above resolutions have in common the objective of formulating a concrete programme for the develop-

ment of information media in the under-developed countries. This memorandum is accordingly addressed to that problem, which has been an abiding preoccupation of UNESCO since the inception of the Organization.¹²

II. UNESCO ACTIVITIES FOR DEVELOPMENT OF INFORMATION MEDIA

5. It may be of use to bring to the notice of the Economic and Social Council a number of activities in the programme of UNESCO for 1959-1960, as approved by the General Conference, which directly or indirectly assist the development of information media. These activities are described below under headings for each of the media.

Press

6. A shortage of trained journalists has severely hindered the expansion of the Press in the less developed countries. The provision of adequate training facilities is therefore essential to the development of newspaper enterprises in these areas. Education for journalism has been a major feature of UNESCO's recent efforts and will continue to be so in 1959-1960.

7. As may be recalled, UNESCO in 1957 assisted in establishing an Institute for Higher Studies in Journalism at Strasbourg, France. Subsequently it assisted in arranging courses and, through the award of fellowships, enabled instructors from various countries to study at the Institute. In 1959, UNESCO will help establish a similar centre for Latin America at Quito, following the regional seminar on education for journalism which UNESCO organized there in 1958. The improvement of editorial training facilities in South-East Asia will also be considered in 1959-1960.

8. High costs and the lack of telecommunication facilities for the transmission of press messages have likewise hampered the development of the Press in less developed areas. It may be noted that in their replies to the Secretary-General, the Governments of both Pakistan and India urged the universal application of a low press cable rate similar to the penny-a-word British Commonwealth rate.¹³

9. In 1958, the Administrative Telegraph and Telephone Conference of the International Telecommunication Union (ITU) adopted a number of proposals recommended by UNESCO for furthering its aims for the provision of cheaper and better facilities for the transmission of press messages. These decisions will, in particular, facilitate the expansion of teleprinter, radiocommunication, telex, telephone and telephoto services in less advanced areas.

10. With a view to securing continued examination of press communication problems, UNESCO will suggest that the Plenipotentiary Conference of the ITU (Geneva, October 1959) consider establishing a permanent study group which would include representatives of the Press. If this study group should be established, it might give special attention to measures which would ensure a fuller flow of news to and from the under-developed countries.

11. An additional opportunity to further this objective will occur in 1960, when UNESCO will convene at Paris

a meeting of experts to examine practical problems affecting the international transmission of news. Specialists representing newspaper enterprises and major news agencies are expected to attend.

Film

12. In various regions, UNESCO has helped to stimulate the production and distribution of documentary films and recently assisted in establishing in Mexico City the Latin American Institute for Educational Films. In 1959 it will co-operate in organizing in Mexico a seminar which, it is hoped, will help to promote the use of audio-visual media in education, assess the requirements of the countries of the region in terms of films and strengthen relations between the Institute and national audio-visual services.

13. In India, UNESCO will assist the Bombay Film Institute in training some 100 technicians from South-East Asian countries in the production of educational films.

Radio

14. The Government of Ceylon pointed out, in its reply to the Secretary-General, that the present international allocation of radio frequencies has failed to facilitate the full expansion of broadcasting services in the under-developed countries.¹⁴ The Administrative Radio Conference of the ITU (Geneva, August 1959) will consider plans for the re-allocation of frequencies for all radio services. In support of the ITU's efforts, UNESCO will, at this conference, seek the more effective distribution of frequencies for international, regional and local broadcasting, with special emphasis on the use of frequency modulation broadcasting in local services.

15. Another proposal is that the ITU and UNESCO jointly study the possibility of promoting the mass production of low-cost receivers for under-developed countries. As will be recalled, the Committee on Freedom of Information of the Commission on Human Rights urged that a study be made of the possibility of helping under-developed countries to manufacture receivers appropriate to their economic conditions and requirements.¹⁵ UNESCO will also seek the reduction of import duties and other taxes on receivers.

16. The lack of trained personnel is another factor limiting the expansion of broadcasting in less advanced areas. UNESCO has helped individual countries to solve this problem and in 1960 will organize a regional training course at Khartoum for Middle East broadcasting personnel. Some twenty persons selected from the broadcasting services will participate.

Television

17. The new medium of television offers vast possibilities for expansion which have as yet been only partially exploited. As the under-developed countries become aware of the educational potentialities of television, there is a corresponding stimulation of effort to develop this medium generally. UNESCO has assisted in this field by conducting experiments in collective reception in certain countries, including Japan. In 1960, it will apply in Latin America the experience thus gained. In co-operation with an educational television station, programmes will be produced on social and educational subjects. Subsequently, a sociological survey will be made to assess the results of the project.

¹² UNESCO General Conference resolutions: first session, Nos. P.1-3; second session, 2.2.1 and 2.2.2; third session, 7.21 and 7.22; fourth session, 7.21 and 7.22; fifth session, 6.1 and 6.2; sixth session, 6.1 and 6.2; seventh session, 5.1 and 5.2; eighth session, IV.1.5.3 and IV.1.5.6; ninth session, 5.1 and 5.5; tenth session, 5.2 and 5.4.

¹³ See E/2947; and E/3205 above.

¹⁴ See E/2947.

¹⁵ E/CN.4/762, annex B, para. 37.

Removal of taxes on information materials

18. UNESCO surveys have shown that over eighty countries impose import duties on materials which could be used in the development of information media.¹⁶ Many of these charges are being eliminated through the UNESCO Agreement on the Importation of Educational, Scientific and Cultural Materials,¹⁷ now applied by thirty countries. It would assist the development of information media if more countries were to apply the Agreement and if they could extend it to the removal of duties and other taxes on such materials as newsprint, printing and news-transmitting equipment; raw film and film projectors; and radio and television receivers and equipment.

III. MEETING ON REGIONAL DEVELOPMENT OF INFORMATION MEDIA

19. In addition to the continuing activities described above, the UNESCO programme for 1959-1960, as approved by the General Conference, includes a new project designed to formulate a regional programme for the development of information media. It will be recalled that the Secretary-General of the United Nations, in his report on this subject to the Council at its twenty-third session, concluded that, on the basis of replies received from Governments, it was not possible to present a useful statement regarding the elements necessary for the formulation of the programme called for by the Council. He observed, however, that countries in a number of regions have common problems and common needs, and that regional meetings might be an effective means of drawing up such a programme.¹⁸

20. The approach indicated by the Secretary-General has guided UNESCO in proposing that a technical meeting be held in South-East Asia in 1960 to draw up a concrete programme for the development of information media in that region. The meeting would be expected to evaluate the material, financial and professional requirements and resources for the implementation of this programme.

21. The South-East Asian meeting, which would be held at the request of a Member State and with funds from the budget of the Expanded Programme of Technical Assistance, would last about ten days.

22. Apart from its main function of drawing up a programme for the development of information media, the meeting would also consider related questions such as the provision of facilities for training in journalism; the expansion of telecommunication facilities to serve the various media; and the production, distribution and taxation of newsprint. In addition, it would advise on specific projects for the development of information media, as, for example, the project described in the annex to this memorandum.

23. UNESCO will report to the Economic and Social Council on the conclusions of the meeting. If this first meeting should yield positive results, similar ones might be held for Latin America, Africa and the Middle East. It might thus be possible, in due course, to formulate for the various regions of the world the type of development programmes which the General Assembly and the Council have requested.

¹⁶ See UNESCO, *Trade Barriers to Knowledge*, Paris, 1955.

¹⁷ *Ibid.*, p. 347.

¹⁸ See E/2947, paras. 67-71.

IV. FINANCING OF DEVELOPMENT PROJECTS

24. In advance of the formulation of comprehensive regional development programmes of the nature which might emerge from the meetings suggested above, measures might be taken to carry out specific projects capable of satisfying well-defined and immediate needs for the development of individual media in certain regions.

25. A description of a sample project of this kind is annexed to this memorandum. It envisages the establishment of a Publications and Graphic Arts Institute in Asia. Through research, technical training of senior staff and experimental production, such an institute would facilitate the expansion of existing press enterprises in the region and encourage the creation of new ones, particularly in the vernacular languages.

ANNEX

Possible establishment of a Publications and Graphic Arts Institute in Asia

26. The possible establishment of a Publications and Graphic Arts Institute in Asia is described below. It provides an example of the kind of project which, with financing from international or other resources, might assist in the development of information media in the less advanced regions.

I. THE PROBLEM

27. The shortage of printed information materials is particularly acute in South-Central and South-East Asia. Notable for the size and diversity of its population, this region is also one in which the paucity of information disseminated by the printed word contrasts sharply with a rich cultural heritage. The need for development of the Press, particularly in the vernacular languages, is common to all the countries of the region.

28. The inadequate situation of the Press in the region is reflected in the annual per capita rate of newsprint consumption. This rate is not more than 0.3 kg. as compared, for example, with over 35 kg. in the United States of America. In some major individual countries consumption is even lower. In Indonesia and Pakistan the rate is 0.1 kg. and in India 0.2 kg.

29. The disparity in consumption is enormous even if the low literacy rate in the region is taken into account. At the same time, existing shortages are becoming more critical as a result of the rapidly increasing demand for printed matter. Vast sums are being invested to teach the 300 million adult illiterates in the region to read and write; there is an increasing rate of school enrolment; and the population is mounting rapidly. In India, for example, while total daily newspaper circulation has remained at some 2.6 million to 3 million for a number of years, it must now be shared among 45 million literate people aged fifteen and over.

30. For many years the production of high quality reading material in Asia has been mainly in English. Even today, when the vernacular languages are in the ascendancy, the vernacular language Press remains in an underprivileged position. Vernacular newspapers have small circulations on the average; they are all too few in number, particularly in the rural areas; and they suffer from an acute lack of qualified staff in all branches. Style needs to be simplified. News sections could be improved greatly through better reporting and sub-editing. The use of features and illustrations could be expanded and the interests of women and young people catered for.

31. Many newspapers in the region also lack trained managerial personnel. Administrative staffs, particularly in the vernacular Press, are at a minimum. Modern costing, circulation and advertising techniques are not put to effective use.

32. Slender budgets and high production costs attendant upon the use of vernacular languages are also a besetting problem. For example, the lack of news services in these languages obliges the individual newspaper to maintain costly translation services. Much remains to be done to adapt modern telecommunication and printing equipment to the native scripts. The general need to hand-set these scripts makes printing an unusually heavy burden on the budget. The possibilities of reducing these charges by application of the many striking technical developments have been virtually unexplored, although some of them are particularly adapted to the problems of the vernacular press.

33. The result of all these factors is to deprive the people of the region of full enjoyment of the opportunities which the printed word offers for economic and social advancement.

34. There is thus ample scope, and a crying need, for the expansion of the Press of South-Central and South-East Asia, and particularly of the vernacular Press. The establishment of a Publications and Graphic Arts Institute to encourage this expansion would be a practical step in the direction indicated by the General Assembly and the Economic and Social Council.

II. THE PROJECT

35. The Institute would be founded for a period of ten years. After this period, the continued need for it would be re-examined, in the light of results already obtained and the remaining requirements of the region.

36. The aim of the Institute would be to facilitate expansion of existing press enterprises, particularly those published in vernacular languages, and to encourage the creation of new ones. Particular attention would be given to the development of publications most directly related to economic, social and technical advancement. For example, in the field of the periodical Press, special attention would be paid to technical publications in agriculture, industry etc., and to publications meant principally for new literates.

37. The Institute would comprise two main departments, corresponding to its two-fold function. These would be as follows:

A. Publications Department—designed to improve (1) editorial and (2) management techniques.

B. Graphic Arts Department—designed (1) to improve techniques and administrative procedures in printing establishments, and (2) to promote more effective use of modern telecommunication techniques.

A. Publications Department

38. (i) *Research* would be undertaken in management practices and new techniques of production designed to assist publishers of newspapers and magazines in the region. Problems of costing, distribution, circulation and advertising would be given special attention. Studies would be made of reader reaction, particularly of new literate readers. Particular attention would be given in all research activities to the needs of the vernacular Press.

39. (ii) *Training* would be provided in the application of new techniques in the production of publications. Such instruction would be extended to publishers and editors, particularly of the vernacular Press, and to those whose functions would enable them to share with others knowledge gained at the Institute. Specialized training would be offered in the management of publications having mainly new literate readership.

40. (iii) *Production* of model and demonstration materials would be undertaken in conjunction with the research and training functions. Special attention would be given to typography, lay-out and illustrations. Sample newspaper and magazine material would be prepared and distributed to publications in the region as a guide to improved typography, lay-outs etc. Such material might also serve as background to articles for publication on themes related to economic development.

B. Graphic Arts Department

41. (i) *Research* would be concentrated on new techniques offering possibilities for composing Asian scripts inexpensively. Photo-composition would be a primary field of such

studies, as would be the adaptation of "cold-type" techniques. Attention would also be given to the problems of typesetting, and wire and radio press communications in the vernacular languages. New techniques of facsimile transmission would be studied as to their use by vernacular newspapers. Research would moreover be directed to the development of sturdy, easy-to-operate, low-cost offset and letterpress equipment suitable for printing small-circulation vernacular publications in rural areas.

42. (ii) *Training* in the graphic arts would be offered to teachers of printing and other persons in selected groups (for example, master printers). The programme of instruction would cover the administrative as well as the technical fields. Special attention would be given to the needs of the vernacular Press for highly-qualified senior printing staff.

43. (iii) *Production* would be correlated with that required as the result of the activities of the Publications Department. A special effort would be made to suggest solutions to problems arising from the use of scripts native to the region.

III. THE BUDGET

44. International resources might be used to finance the Institute's activities during the first four years of operation. During a subsequent six-year period, the countries in the region would be expected gradually to assume full financial responsibility. The need for continuance of the Institute would be examined before the end of the tenth year of operation.

45. Assuming that the host country would provide premises for the Institute, the main item of expenditure, during the first year, would be for equipment. From the second year onward, the Institute would have a standard annual budget for normal operations, providing mainly for international and local experts, fellowships and supplies.

Document E/3206/Add.1

[Original texts: English and French]
[16 February 1959]

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)¹⁹

Letter dated 23 January 1959 from the Director-General of FAO, sent in accordance with Council resolution 643 (XXIII)

Please refer to your letter ... inviting our comments on the first draft of the Secretary-General's report to the Economic and Social Council at its twenty-seventh session on possibilities of international action for the improvement of information media in under-developed countries.

I find that UNESCO listed the principal categories of these media as the Press, radio, film and television, and both the UNESCO report and the replies received from Governments indicate that an increased availability of newsprint would be an important means of expanding and improving information media in a country. FAO has a direct contribution to make in this matter through the enlargement of suitable timber resources and the setting up of industries for their exploitation as pulp and paper including newsprint. This Organization will continue

¹⁹ Reference may also be made to the letter reproduced in annex F of the report of the Committee on Freedom of Information to the Commission on Human Rights (E/CN.4/762).

In a letter from FAO dated 30 January 1959, it is stated that the letter of 23 January 1959, reproduced above, answers the Secretary-General's request made under General Assembly resolution 1313 A (XIII).

to advise and assist Governments in this field, both through the Regular and Technical Assistance Programmes, to the extent that it is possible to do so within the limits of our resources. It appears that, at one stage, the Secretary-General suggested that a limited number of seminars might be organized over a period of time to undertake a searching investigation of the problems involved in developing information media. FAO will be prepared to participate in any of these seminars which may undertake technical studies relating to newsprint production.

We are naturally greatly interested in promoting the improvement of the services of existing information enterprises addressed to rural populations. We are already engaged in doing so in a number of ways. For example, FAO has held one Farm Radio Conference for the European region. But more important than such formally organized efforts, the frequent contacts of our information personnel with journalists, broadcasters and other members of the information enterprises, as well as with officials of Government rural extension services, result in a constant interchange of ideas and experience, leading to improvements in the quantity and quality of information services to rural people. FAO is also the source of a certain amount of prototype material which can be and, in fact, is adapted to the languages and idioms of various countries and regions for wider dissemination among the rural populations. Such material has been also found to be useful in informing urban people about rural problems which ultimately affect the whole population.

The question of the expansion and improvement of information media is, in the last analysis, dependent on the spread of literacy and the availability of both public and private funds to pay for the different types of information facilities. The entire work of this Organization may claim to be helping towards this end through assisting Governments in increasing the incomes of their rural populations. The scope for further action is limited only by the resources which are made available to this Organization by the Member Governments themselves.

INTERNATIONAL LABOUR ORGANISATION (ILO) ²⁰

Letter dated 2 February 1959 from the Assistant Director-General of the ILO, sent in accordance with Council resolution 643 (XXIII)

I am pleased to reply to your letter ... concerning the development of information media in under-developed countries with which you enclosed the text of Economic and Social Council resolution 643 (XXIII), the Secretary-General's initial report on the subject (E/2947 and Add.1) and the first draft of the further report which is to be submitted to the Council at its twenty-seventh session.

This draft text has been carefully examined in the light of paragraph 3 of resolution 643 (XXIII) which invites the co-operation of the specialized agencies, as appropriate, in implementing this task. At the present time, however, the ILO has no proposals to make by way of assistance to the Secretary-General.

Close attention will continue to be given to the efforts to encourage freedom of information and the ILO will be glad to supply you with relevant information and comments whenever possible.

²⁰ Reference may also be made to the letters reproduced in annex F of document E/CN.4/762.

Letter dated 2 February 1959 from the Assistant Director-General of the ILO, sent in accordance with General Assembly resolution 1313 A (XIII)

I am pleased to reply to your letter ... informing the ILO about item 10, dealing with freedom of information, of the provisional agenda for the twenty-seventh session of the Economic and Social Council, to which you attached the text of General Assembly resolution 1313 A (XIII) on the same subject. This information has been duly noted.

The ILO is interested in a number of aspects of this problem and will therefore follow closely the discussions by the Council on this item of its agenda. We do not, however, have any concrete proposals to make at this time with respect to the building up of adequate media of information in the less developed countries, as suggested in paragraph 3 of resolution 1313 A (XIII).

I wish to add that the ILO intends to comply, wherever it will be appropriate, with the further request contained in the resolution that the specialized agencies include an account of their efforts on this and other aspects of freedom of information in their annual reports to the Economic and Social Council.

INTERNATIONAL TELECOMMUNICATIONS UNION (ITU) ²¹

Letter dated 8 January 1959 from the Senior Counsellor of ITU, sent in accordance with Council resolution 643 (XXIII)

... This resolution [643 (XXIII)] was duly mentioned under the heading "Freedom of information" in part V of the annual report of the Union for 1957,²² with special reference to the aid afforded to under-developed countries in the improvement of their telecommunication systems by the studies of the Consultative Committees and by the participation of the Union in the Expanded Programme of Technical Assistance. During the last year this aid has been intensified, particularly in the region of Asia and the Far East.

We have no comments to offer on the first draft of the report of the Secretary-General of the United Nations [on media of information in under-developed countries].

Letter dated 8 January 1959 from the Senior Counsellor of ITU, sent in accordance with General Assembly resolution 1313 A (XIII)

We are much obliged for your letter ... with which you were so good as to forward a copy of General Assembly resolution 1313 A (XIII) on freedom of information.

While, as you will no doubt appreciate, the formulation of concrete proposals of the kind envisaged in the resolution would fall outside the scope of the normal activities of the Union, we will certainly include reference to the position of the Union in regard to other aspects of freedom of information in our annual report for 1958 to the Economic and Social Council.

²¹ *Idem.*

²² See ITU, *The Annual Report by the Secretary-General of the International Telecommunication Union 1957*, Geneva, 1958. Transmitted to the members of the Economic and Social Council by a note of the Secretary-General (E/3122).

UNIVERSAL POSTAL UNION (UPU)

Letter dated 23 January 1959 from the Deputy-Director of UPU sent in accordance with Council resolution 643 (XXIII)

... You were good enough to furnish me with the first draft of the report which the Secretary-General proposes to submit to the Economic and Social Council at its twenty-seventh session on the problem of improving information media in the under-developed countries, and to ask for my comments on this draft report.

I have the honour to inform you that the principal function of the International Bureau, which is the standing body of the Universal Postal Union, is to serve as an organization for liaison, information and consultation for the postal administrations of member countries, and to ensure that decisions taken by the Congresses are carried out. Its activities are closely governed by the Universal Postal Convention and its Agreements, and in contrast to the organization of some of the other specialized agencies, it is not in a position to direct them along any particular channel to achieve some special aim except by a decision of the Congress. The only possibility would be for national postal administrations to take such steps themselves, if necessary.

I am therefore unable to suggest any means for improving information media in the under-developed countries, and must confine myself to submitting a few comments on postal arrangements which might have some connexion with the promotion of information in general, although they do not specifically apply to any particular category of countries but to the member countries of the Union as a whole. These would include freedom of circulation of information in various forms, postal charges on books, newspapers and other periodicals, and the quality of routing and delivery services for these articles.

With regard to the first item—the free circulation of information—the Universal Postal Convention contains a provision whereby: “Freedom of transit is guaranteed throughout the entire territory of the Union”. Of course, this freedom does not mean that member countries are required to open their frontiers to transport operated by some other country of the Union as it does not affect national postal monopolies. It means that intermediate postal administrations are obliged to provide conveyance for correspondence of all kinds, including newspapers and books which are consigned to them in transit by some other postal administration.

Furthermore, in accordance with an official UPU Congress interpretation (Buenos Aires, 1939), the principle of freedom of transit implies inviolability of

correspondence. Thus, with the exception of certain prohibitions, correspondence in transit cannot be subject to any control or be confiscated. This provision is in harmony with the principle of inviolability of correspondence set forth in article 12 of the Universal Declaration of Human Rights.

Freedom of transit, however, is only indirectly related to the improvement of information in the under-developed countries. It is a principle which has to be applied by all member countries of the Universal Postal Union, without distinction, and which promotes international dissemination of written information, but it does not imply that any action should be taken with respect to media for this dissemination within the countries themselves. Freedom of transit is thus only indirectly related to improvement of information media in the under-developed countries.

As regards postal charges on consignments of books, newspapers and other periodicals in international relations, it should be mentioned that recent Congresses of the Universal Postal Union took decisions to reduce them—in many cases below cost—precisely in order to facilitate dissemination of the printed word and to promote information and education in general. The provisions adopted were, as a rule, discussed previously between UNESCO and the postal administrations of the member countries of the Union. There again the measures were designed to promote the spread of information at the international and not at the domestic level; moreover, they do not apply only to the under-developed countries but to all countries without distinction.

I should add that any further decision on this point would have to be taken by the authoritative body of the Union, namely, the Congress, which will next meet in 1962.

As to the quality of routing and delivery services for information material, it might help in achieving the desired results, particularly as regards the promotion and distribution of daily newspapers. Obviously, if these newspapers are to serve their purpose there should be facilities for daily postal deliveries outside large centres, which is not always the case in many parts of the world.

In mentioning this particular aspect of the distribution of daily papers, I hasten to add that the Universal Postal Union plays no part whatsoever in this field. It is a domestic problem for each individual country falling exclusively within the competence of its national postal administration.

Lastly, as regards radio, television and the cinema, my Organization is not competent to submit any observations or to make any proposals.

DOCUMENT E/3234

Comment by the secretariat of the International Telecommunication Union on resolution 2 (XV) of the Commission on Human Rights

Note by the Secretary-General

[Original text: English]
[14 April 1959]

In connexion with resolution 2 (XV) adopted by the Commission on Human Rights at its fifteenth session, which is contained in the Commission's special report to the Council on Freedom of information (E/3224), the Secretary-General has the honour to bring to the attention of the Council the following comment, dated

7 April 1959, which he has received from the secretariat of the International Telecommunication Union:

“The Plenipotentiary Conference is the supreme organ of the International Telecommunication Union but rates for press telegrams are dealt with in the Telegraph Regulations annexed to the International

Telecommunication Convention. Under article 10 of this Convention, the revision of the Telegraph Regulations is a matter for the ordinary administrative Telegraph and Telephone Conference. This conference met in Geneva in October and November 1958 and it considered a number of proposals made by Members and Associate Members of the Union for the modification of the chapter of the Telegraph Regulations devoted to press telegrams. Sixty-four Members and one Associate Member of the Union attended the conference. The United Nations, UNESCO and certain press organizations participated in the debates on

press telegrams. The chapter was modified in form but no change was made in the basic provision regarding the rates for press telegrams which prescribes that the 'rates applicable to ordinary press telegrams shall be those of ordinary private telegrams reduced by 50 per cent in the European system and by 66½ per cent in other relations'. The revised Telegraph Regulations adopted by the conference will come into force on 1 January 1960. The Economic and Social Council may wish to take into consideration the fact that the question was fully considered recently by the competent administrative conference."

DOCUMENT E/3239**

Report of the Social Committee

[Original text: English]
[22 April 1959]

1. The Social Committee, under the chairmanship of Mr. Zahiruddin Ahmed (Pakistan), Second Vice-President of the Council, considered, at its 387th and 388th meetings, on 21 April 1959 (E/AC.7/SR.387 and 388), item 10 of the Council's agenda (Freedom of information) which was referred to it by the Council at its 1062nd meeting held on 20 April 1959.

2. The Committee had before it the following documents: E/3204, E/3205 and Add.1, E/3206 and Add.1, E/3224, E/3234, E/L.824 and E/L.824/Rev.1, E/L.825, E/AC.7/L.318, E/AC.7/L.319, A/AC.7/L.320.

3. The Committee considered the following proposals:

(a) Resolution 1 (XV), parts A and B, of the Commission on Human Rights, as contained in document E/3224;

(b) Resolution 2 (XV) of the Commission on Human Rights, as contained in document E/3224;

(c) A draft resolution by Chile, Costa Rica, Mexico and the United States of America on a United Nations Declaration on Freedom of Information (E/L.824).

4. Part A of the draft resolution recommended in resolution 1 (XV) of the Commission on Human Rights, including the preamble, was adopted unanimously by the Committee.

5. The Committee voted as follows on part B of the draft resolution recommended in resolution 1 (XV):

(a) In sub-paragraph (a) of operative paragraph 2, the words "as well as any other information available", voted upon separately at the request of the representative of Afghanistan, were adopted by 12 votes to 2, with 4 abstentions.

(b) Sub-paragraph (a) of operative paragraph 2 was adopted by 14 votes to 2, with 2 abstentions.

(c) In sub-paragraph (b) of operative paragraph 2, the words "non-governmental organizations in consultative status with the Council and the professional organizations concerned, both national and international", voted upon separately at the request of the representative of Afghanistan, were adopted by 10 votes to 2, with 6 abstentions.

(d) Sub-paragraph (b) of operative paragraph 2 was adopted by 12 votes to 3, with 3 abstentions.

(e) Part B of the draft resolution recommended in resolution 1 (XV), as a whole, was adopted by 12 votes to 3, with 3 abstentions.

6. The representative of the Secretary-General informed the Committee that the Secretary-General would, if that solution were acceptable to the Council, entrust the task requested of him in sub-paragraph (b) of operative paragraph 2 of part B to a consultant and would transmit the consultant's report to the Council.

7. In the discussion of the draft resolution recommended in resolution 2 (XV) of the Commission on Human Rights the Committee received amendments submitted by the United States of America (E/AC.7/L.318). These amendments read as follows:

"(1) In the first paragraph of the preamble, replace the word 'cables' by the word 'messages'.

"(2) In the second paragraph of the preamble, replace the word 'cable' by the word 'telegraph'.

"(3) Re-draft the operative paragraph to read:

"Expresses the hope that such efforts will be continued at appropriate conferences of the International Telecommunication Union or through other arrangements to bring into effect reduced international press telegraph rates."

The sponsor of the amendments agreed to replace the word "telegraph" in the second and third amendments by the word "telegram" and also agreed, at the suggestion of the Chairman, to add the words "as expeditiously as possible" at the end of the text proposed in the third amendment.

The amendments submitted by the United States of America, as amended, were adopted by the Committee without vote.

The Committee voted as follows on the draft resolution recommended in resolution 2 (XV):

(a) In the first paragraph of the preamble, the words "undistorted and accurate", voted upon separately at the request of the representative of China, were rejected by 8 votes to 6, with 4 abstentions.

(b) The first paragraph of the preamble, voted upon separately at the request of the representative of Afghanistan, was adopted by 12 votes to none, with 6 abstentions.

(c) The draft resolution as a whole, as amended, was adopted unanimously.

8. The Committee then considered the draft resolution submitted by Chile, Costa Rica, Mexico and the United States of America (E/L.824) to which a draft United Nations Declaration on Freedom of Information was annexed. France submitted an amendment (E/L.825) to this draft resolution. In accordance with this amend-

** Incorporating document E/3239/Corr.1.

ment, the Council would place the question of a draft Declaration on Freedom of Information on its agenda for the twenty-eighth session. It was understood that the text of the above-mentioned draft Declaration would not be annexed to the resolution. The French amendment was accepted by the sponsors. The representative of Afghanistan also submitted amendments (E/AC.7/L.319) to the draft resolution (E/L.824). In view of the acceptance of the French amendment by the sponsors, and the consequent revision of the draft resolution (E/L.824/Rev.1), the representative of Afghanistan submitted revised amendments (E/AC.7/L.320) to the revised draft resolution. These amendments read as follows:

"(1) Delete the fourth paragraph of the preamble.

"(2) Delete the following words in the fifth paragraph of the preamble: 'and without prejudice to the Assembly action in this respect'.

"(3) Delete the sixth paragraph of the preamble.

"(4) Amend the operative paragraph to read as follows:

"Decides to transmit the question of the consideration of the desirability of a United Nations draft Declaration on Freedom of Information to the fourteenth session of the General Assembly without any prejudice whatsoever to the action of the General Assembly in connexion with the discussion of the draft Convention on Freedom of Information with a view to its adoption as soon as possible."

The Committee voted as follows on the revised draft resolution (E/L.824/Rev.1) and the amendments submitted by Afghanistan (E/AC.7/L.320):

(a) The first amendment was rejected by 11 votes to 4, with 3 abstentions.

(b) The second amendment was withdrawn.

(c) The third amendment was rejected by 10 votes to 4, with 4 abstentions.

(d) The fourth amendment was rejected by 11 votes to 4, with 3 abstentions.

(e) The revised draft resolution was adopted by 13 votes to 3, with 2 abstentions.

9. Following a statement by the representative of UNESCO, the Committee took note of a report by the Director-General of UNESCO on the protection of news and other press information (E/3204), submitted in accordance with Council resolution 522 D (XVII).

10. The Committee therefore recommends to the Council the adoption of the following draft resolutions:

Draft resolution I

[Text adopted by the Council without change. See resolution 718 (XXVII) below.]

Draft resolution II

[Text adopted by the Council without change. See resolution 719 (XXVII) below.]

Draft resolution III

[Text adopted by the Council without change. See resolution 720 (XXVII) below.]

DOCUMENT E/L.824

Chile, Costa Rica, Mexico and United States of America: draft resolution

[Original text: English]
[16 April 1959]

The Economic and Social Council,

Recalling that the purposes of the United Nations include *inter alia* the development of friendly relations among nations, and the promotion and encouragement of respect for human rights and fundamental freedoms for all,

Recognizing that the promotion of freedom of information as a fundamental human right is essential to the fulfilment of these purposes,

Mindful of the significance which the Universal Declaration of Human Rights has acquired among the peoples of the United Nations,

Considering that a Universal Declaration on Freedom of Information could be a further step towards the realization of the purposes set forth above,

Recalling that the General Assembly has decided to proceed, at its fourteenth session, to a discussion of the text of the draft Convention on freedom of information, and without prejudice to the Assembly action in this respect,

1. Recommends that the General Assembly give consideration to adopting a Declaration on Freedom of Information along the lines of that included in the annex to this resolution;

2. Invites Members of the United Nations to submit to the Secretary-General by 3 August 1959 any comments which they may wish to make, and

3. Requests the Secretary-General to transmit these comments to the General Assembly at its fourteenth session.

ANNEX

DRAFT UNITED NATIONS DECLARATION ON FREEDOM OF INFORMATION

WHEREAS the development of friendly relations among nations and the promotion of respect for human rights and fundamental freedoms for all are basic purposes of the United Nations,

WHEREAS the Universal Declaration of Human Rights provides that "Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers",

WHEREAS the promotion of these rights requires the opening of countries to greater freedom of communication, since no other liberty is secure if men cannot freely convey their thoughts to one another,

WHEREAS the erection of artificial barriers to communication creates fear and suspicion between peoples and impairs prospects for world peace,

WHEREAS newspapers, books, periodicals, radio, television, and other media of information are essential means by which people learn of events and situations, and are thus a vital force in determining the reaction of peoples and nations to each other,

NOW, THEREFORE, THE GENERAL ASSEMBLY

PROCLAIMS this Declaration of Freedom of Information as evidence of its determination to assure the peoples of the United Nations free interchange with one another and access to all sources of information and expression.

ARTICLE I. *Everyone has the right to knowledge and expression.*

The right to know is an inalienable and natural right of man. Free men, given the opportunity to know the truth, are not easily misled.

Each man must be free to advance his views and consider those of others. Through mutual toleration and comparisons of differing opinions the individual can expand his understanding of the truth.

ARTICLE II. *All Governments have the responsibility to protect and encourage the free flow of information through all media.*

Information is a public trust. Governments should avoid measures which interfere with the free dissemination of information, or manipulate facts with the intent to mislead.

The right to gather and transmit news should be assured,

including the right of reporters to observe and report news within countries and across frontiers.

ARTICLE III. *The Press and other media of information should be the servants of the people and not of the State.*

There should be no monopoly in the dissemination of news and ideas by Governments or any other agency, public or private. Minorities as well as majorities should have access to the Press and all other media of information and be free to develop such media of their own choosing.

ARTICLE IV. *All media of public information should report honestly and responsibly, while giving due consideration to national security, public decency, and the rights of individuals and nations.*

No media should knowingly propagate falsehood. It is a high privilege and a public responsibility to provide the basis on which enlightened opinion can be formed.

ARTICLE V. *Everyone has the right to full information about the United Nations and its associated organizations.*

The efforts of the United Nations can succeed only as the peoples of the United Nations are able to understand and support its objectives and activities.

DOCUMENT E/L.825

France: amendment to document E/L.824

[Original text: French]

[17 April 1959]

Replace operative paragraphs 1, 2 and 3 and the annex by the following text:

"Having received the text of a draft Declaration on Freedom of Information,

"Decides to place the question of a draft Declaration on Freedom of Information on the agenda for the twenty-eighth session."

RESOLUTIONS ADOPTED BY THE ECONOMIC AND SOCIAL COUNCIL

718 (XXVII). Freedom of information

The Economic and Social Council,

Recalling General Assembly resolutions 1189 B (XII) of 11 December 1957 and 1313 (XIII) of 12 December 1958 and Council resolution 683 C (XXVI) of 21 July 1958, and the desire manifested in the United Nations to ensure greater freedom of information, particularly in under-developed countries,

Noting the recommendations of the Commission on Human Rights with regard to freedom of information,

I

MEDIA OF INFORMATION IN UNDER-DEVELOPED COUNTRIES

1. *Notes with approval* the suggestions contained in paragraph 9 and the conclusions in paragraph 12 of the report of the Committee on Freedom of Information (E/CN.4/762 and Corr.1) concerning the development of media of information in under-developed countries;

2. *Requests* the United Nations Educational, Scientific and Cultural Organization, in consultation with other specialized agencies concerned, Governments of member States and organizations actively engaged in the field of

information to undertake, within the scope of its programme, a survey of the problems of providing technical assistance to under-developed countries in that field, bearing in mind the conclusions and suggestions in the report of the Committee on Freedom of Information concerning the development of media of information in under-developed countries, and General Assembly resolution 1313 (XIII), and to forward its report and recommendations to the Commission on Human Rights and to the Economic and Social Council before the summer of 1961 to enable the Council to make an evaluation of the material, financial and professional requirements and resources for implementation of the programme envisaged in that resolution, including expert advice, fellowship awards, seminars and the provision of equipment and other facilities;

II

REPORTS ON DEVELOPMENTS IN FREEDOM OF INFORMATION

1. *Notes with approval* the decision of the Commission on Human Rights²³ to review developments affecting freedom of information, including the prob-

²³ Official Records of the Economic and Social Council, Twenty-eighth Session, Supplement No. 8, para. 49, resolution I (XV).

lems of providing technical assistance to under-developed countries in the field of information, as a regular item on its agenda ;

2. *Requests the Secretary-General:*

(a) To facilitate the Commission's regular review of this subject by providing an annual report on developments affecting freedom of information, including the problems of providing technical assistance to under-developed countries in the field of information, on the basis of material furnished by the United Nations Educational, Scientific and Cultural Organization and other interested specialized agencies, as well as any other information available ;

(b) To prepare in co-operation with the Governments of Member States, the specialized agencies, particularly the United Nations Educational, Scientific and Cultural Organization, non-governmental organizations in consultative status with the Council, and the professional organizations concerned, both national and international, a substantive report for submission to the Council in 1961 on developments in the field of freedom of information since 1954, including in particular :

(i) The news sources to which peoples have access ;

(ii) The extent to which they receive news of the United Nations and its specialized agencies and their work for peace ;

(iii) Developments in the facilities for the free flow of accurate and undistorted information into and out of under-developed countries.

*1066th plenary meeting,
24 April 1959.*

719 (XXVII). Freedom of information : international press telegram rates

The Economic and Social Council,

Considering that the existence of generally high and divergent rates for international press messages is a serious impediment to the free flow of information and to the development of international understanding,

Noting with commendation the efforts of the International Telecommunication Union, the United Nations Educational, Scientific and Cultural Organization and

other bodies towards reduction of international press telegram rates,

Expresses the hope that such efforts will be continued at appropriate conferences of the International Telecommunication Union or through other arrangements to bring into effect reduced international press telegram rates, as expeditiously as possible.

*1066th plenary meeting,
24 April 1959.*

720 (XXVII). Freedom of information : draft Declaration on Freedom of Information

The Economic and Social Council,

Recalling that the purposes of the United Nations include *inter alia* the development of friendly relations among nations, and the promotion and encouragement of respect for human rights and fundamental freedoms for all,

Recognizing that the promotion of freedom of information as a fundamental human right is essential to the fulfilment of these purposes,

Mindful of the significance which the Universal Declaration of Human Rights has acquired among the peoples of the United Nations,

Considering that a United Nations Declaration on Freedom of Information could be a further step towards the realization of the purposes set forth above,

Recalling that the General Assembly has decided, in its resolution 1313 C (XIII) of 12 December 1958, to proceed at its fourteenth session to a discussion of the text of the draft Convention on Freedom of Information,²⁴ and without prejudice to the Assembly action in this respect,

Having received the text of a draft Declaration on Freedom of Information,

Decides to place the question of a draft Declaration on Freedom of Information on the agenda for its twenty-eighth session.

*1066th plenary meeting,
24 April 1959.*

²⁴ *Official Records of the General Assembly, Seventh Session, Annexes, agenda item 29, document A/AC.42/7, annex.*

CHECK LIST OF DOCUMENTS

NOTE. This check list includes all the documents mentioned during the consideration of agenda item 10 which are not reproduced in the present fascicle.

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/2947 and Add.1	Media of information in under-developed countries : report of the Secretary-General	<i>Official Records of the Economic and Social Council, Twenty-third Session, Annexes, agenda item 12</i>
E/3224	Special report on freedom of information prepared by the Commission on Human Rights	For the text of this document, see <i>Official Records of the Economic and Social Council, Twenty-eighth Session, Supplement No. 8, chap. II</i>

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/AC.7/L.318	United States of America: amendment to the draft resolution recommended in resolution 2(XV) of the Commission on Human Rights in document E/3224	Incorporated in E/3239, para. 7
E/AC.7/L.319	Afghanistan: amendments to document E/L.824	Mimeographed
E/AC.7/L.320	Afghanistan: amendments to document E/L.824/Rev.1	Incorporated in E/3239, para. 8
E/CN.4/762 and Corr.1	Report of the Committee on Freedom of Information	Mimeographed
E/L.824/Rev.1	Chile, Costa Rica, Mexico and United States of America: revised draft resolution	Adopted without change. See E/3239, para. 10, draft resolution III



Agenda item 11: United Nations Children's Fund *

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E/3223/Add.1	Financial implications of the programme of work outlined in document E/3223, paragraphs 105 to 116: note by the Secretary-General	1
E/L.830	France, New Zealand and United States of America: draft resolution	2
E/L.831	Mexico: amendment to document E/L.830	2
Resolution adopted by the Economic and Social Council		2
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DOCUMENT E/3223/ADD.1

**Financial implications of the programme of work outlined in document E/3223, paragraphs 105 to 116:
note by the Secretary-General**

[Original text: English]
[13 April 1959]

1. In paragraphs 105 to 116 of its report (E/3223), the Executive Board of the United Nations Children's Fund (UNICEF) refers to the joint programme of work of UNICEF and the United Nations Bureau of Social Affairs in the matter of international technical aid to improve the quality of existing national social services for the care of children and to develop and necessary new services including those of a preventive nature. Such technical aid is requested by the Board in connexion with the preparation and implementation of projects under which UNICEF funds are to be allocated to countries for the purpose of developing standards, training social services personnel, and providing related material aid.

2. During 1959, the first year of the operation of this joint programme of work, UNICEF will finance the employment of a technical adviser, who will be selected and supervised by the Bureau of Social Affairs. This technical adviser will complement the regular professional staff available in the Bureau of Social Affairs. Some travel will have to be undertaken in the course of the year, the cost of which will also be borne by UNICEF.

3. As the necessary provision does not exist in the regular United Nations budget appropriations for 1959, the UNICEF Executive Board has arranged to cover the costs in that year; it has, however, requested that the continuation of these arrangements in 1960 and thereafter be agreed by the Secretary-General on the basis that these costs would be financed from the regular budget of the United Nations.

4. The funds required to comply with the request of the Executive Board in 1960 would, for the full year,

amount to \$20,000 (\$12,000 for the technical adviser and some \$8,000 for field travel). It is not clear at this stage whether in 1961 and subsequent years the programme would entail similar or higher costs. This would depend, in part, on the volume and nature of the projects that are presented for UNICEF approval.

5. As indicated in paragraph 115 of document E/3223, the Secretary-General has undertaken to include in his regular budget estimates for 1960 consultant funds to cover this service (technical adviser) for five to six months in 1960. If the services of the technical adviser are required during the whole of 1960, the Secretary-General proposes to take this into account when submitting revisions of his initial budget estimates for 1960 to the General Assembly at its fourteenth session. However, the Secretary-General's action in this matter would be subject to favourable action by the Council on the Executive Board's request.

6. The Secretary-General would also like to bring to the attention of the Council the effect of the new policies agreed on by the Board with regard to technical assistance in the social welfare field. All funds under the advisory social welfare services programme (General Assembly resolution 418 (V)) are committed for 1959 and many projects are in category II of the programme awaiting implementation if funds become available. A very limited number of experts and fellowships are available in the field of child welfare. Any significant increase in technical assistance requirements to carry out training projects and to develop standards for child welfare services as outlined in paragraph 111 of document E/3223 would require some augmentation of the funds available in the regular budget in the terms of General Assembly resolution 418 (V).

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session, 1064th and 1065th meetings.*

DOCUMENT E/L.830**France, New Zealand and United States of America : draft resolution**

[Original text : French]
[22 April 1959]

The Economic and Social Council

1. *Takes note with satisfaction* of the reports of the Executive Board of the United Nations Children's Fund on the sessions which it held in New York in September 1958 (E/3136 and Corr.1) and at Geneva in March 1959 (E/3223) ;

2. *Congratulates* the Executive Director of the United Nations Children's Fund and the Directors-General of the World Health Organization, the United Nations Educational, Scientific and Cultural Organization and the Food and Agriculture Organization of the United Nations on the close co-operation between the Fund and the specialized agencies which was confirmed at the Executive Board's Geneva session ;

3. *Takes note* of the recommendations (E/3223, para. 48) made in the Executive Board's report of March 1959 for the submission to it, at the September 1959 session, of two reports on the situation of the malaria eradication programmes : a technical report by the World Health Organization on the results of the malaria control campaign and the real possibilities of eradicating that disease, and an administrative report by the Executive Director of the United Nations Children's Fund giving a financial balance-sheet of the work in hand and making precise recommendations regarding the amount of the Fund's contribution to the anti-malaria campaigns of the World Health Organization for the next five years ;

4. *Expresses the hope* that the World Health Organization and the United Nations Children's Fund will communicate those reports to Governments as soon as possible.

DOCUMENT E/L.831**Mexico : amendment to document E/L.830**

[Original text : Spanish]
[23 April 1959]

Add the following paragraph at the end of the draft resolution :

"*Urges* Governments of Member States to continue to give their malaria eradication programmes the greatest possible support and to communicate to the World Health Organization and the United Nations Children's Fund their views on the most suitable methods of organizing such campaigns within the framework of governmental administrations, taking into account the above-mentioned reports."

RESOLUTION ADOPTED BY THE ECONOMIC AND SOCIAL COUNCIL**716 (XXVII). United Nations Children's Fund***The Economic and Social Council*

1. *Takes note with satisfaction* of the reports of the Executive Board of the United Nations Children's Fund on the sessions which it held in New York in September 1958 (E/3136 and Corr.1) and at Geneva in March 1959 (E/3223) ;

2. *Congratulates* the Executive Director of the United Nations Children's Fund and the Directors-General of the World Health Organization, the United Nations Educational, Scientific and Cultural Organization and the Food and Agriculture Organization of the United Nations on the close co-operation between the Fund and the specialized agencies which was confirmed at the Executive Board's Geneva session ;

3. *Takes note* of the recommendations (E/3223, para. 48) made in the Executive Board's report of March 1959 for the submission to it, at the September 1959 session, of two reports on the situation of the malaria eradication programmes : a technical report by the World Health Organization on the results of the malaria control

campaign and the real possibilities of eradicating that disease, and an administrative report by the Executive Director of the United Nations Children's Fund giving a financial balance sheet of the work in hand and making precise recommendations regarding the amount of the Funds' contribution to the anti-malaria campaign of the World Health Organization for the next five years ;

4. *Expresses the hope* that the World Health Organization and the United Nations Children's Fund will communicate those reports to Governments as soon as possible ;

5. *Urges* Governments of Member States to continue to give their own malaria eradication programmes the greatest possible support and to communicate to the World Health Organization and the United Nations Children's Fund, for the benefit of other Governments, their views on the most suitable methods of organizing such campaigns within the framework of governmental administrations, taking into account the above-mentioned reports.

1065th plenary meeting,
23 April 1959.

CHECK LIST OF DOCUMENTS

Note. This check list includes the documents mentioned during the consideration of agenda item 11 which are not reproduced in the present fascicle.

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/3136 and Corr.1	United Nations Children's Fund : report of the Executive Board (2-11 September 1958)	<i>Official Records of the Economic and Social Council, Twenty-seventh Session, Supplement No. 2</i>
E/3223	United Nations Children's Fund : report of the Executive Board (2-12 March 1959)	<i>Ibid., Supplement No 2A</i>



Agenda item 12: Non-governmental organizations*

CONTENTS

<i>Document No.</i>	<i>Title</i>	<i>Page</i>
E/3217	Applications and re-applications for consultative status: report of the Council Committee on Non-Governmental Organizations	1
E/L.832	Applications and re-applications for consultative status: Union of Soviet Socialist Republics: amendment to the draft resolution submitted by the Council Committee on Non-Governmental Organizations (E/3217)	1
Resolution adopted by the Economic and Social Council		2
Check list of documents		2

DOCUMENT E/3217

**Applications and re-applications for consultative status
Report of the Council Committee on Non-Governmental Organizations**

[Original text: English]

[3 March 1959]

1. A meeting of the Council Committee on Non-Governmental Organizations was held at Headquarters on 2 March 1959. The Committee elected Miss J. D. Pelt (Netherlands), Chairman. It had before it a memorandum by the Secretary-General (E/C.2/R.26 and Add.1). A summary record of the meeting is given in document E/C.2/SR.175.

2. The Committee, acting in accordance with Council resolution 288 B (X), paragraph 35 (a), recommends that the Council adopt the following draft resolution:

[Text adopted by the Council without change. See resolution 717 (XXVII) below.]

DOCUMENT E/L.832

**Applications and re-applications for consultative status
Union of Soviet Socialist Republics: amendment to the draft resolution submitted by the Council Committee on Non-Governmental Organizations (E/3217)**

[Original text: Russian]

[23 April 1959]

Add the following words in the list of organizations in operative paragraph 1 of the draft resolution: "International Association of Democratic Lawyers", and delete from paragraph 3 the words: "International Association of Democratic Lawyers".

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session*, 1050th and 1065th meetings; and E/C.2/SR.175 and 176 and Add.1.

RESOLUTION ADOPTED BY THE ECONOMIC AND SOCIAL COUNCIL

**717 (XXVII). Non-governmental organizations :
applications and re-applications for consultative status**

The Economic and Social Council,

Having considered the report of its Committee on Non-Governmental Organizations (E/3217),

1. *Decides* to grant the requests of the following organizations for category B consultative status :

Inter-American Planning Society ;
International Association for Social Progress ;
International Federation of Social Workers ;

Women's International Zionist Organization ;

2. *Decides* to grant the request of the following organization for reclassification from the Register to category B :

World Federation of the Deaf ;

3. *Decides* not to grant the requests of the following organizations for category B consultative status :

International Association of Democratic Lawyers ;
International Confederation of Senior Public Servants.

*1065th plenary meeting,
23 April 1959.*

CHECK LIST OF DOCUMENTS

Note. This check list includes the documents mentioned during the consideration of agenda item 12 which are not reproduced in the present fascicle.

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/3232	Applications for hearings: report of the Council Committee on Non-Governmental Organizations	Mimeographed
E/3233	Hearings: report of the Council Committee on Non-Governmental Organizations	Ditto
E/C.2/R.26 and Add.1	Applications and re-applications for consultative status: memorandum by the Secretary-General	Ditto



Agenda item 13: Elections*

CHECK LIST OF DOCUMENTS

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/3220 and Corr.1 and Add.1-3	Election of one-third of the membership of functional commissions of the Council: note by the Secretary-General	Mimeographed. For the list of members, see <i>Official Records of the Economic and Social Council, Twenty-seventh Session, Supplement No. 1</i> , "Other decisions taken by the Council during its twenty-seventh session"
E/L.817 and Add.1 and 2	Election of members of the Executive Board of the United Nations Children's Fund: note by the Secretary-General	<i>Idem.</i>

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session*, 1065th meeting.



Agenda item 14: Confirmation of members of functional commissions of the Council*

CHECK LIST OF DOCUMENTS

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/3221 and Add.1	Note by the Secretary-General	Mimeographed For the list of members confirmed, see <i>Officials Records of the Economic and Social Council, Twenty-seventh Session, Supplement No. 1, "Other decisions taken by the Council during its twenty-seventh session"</i>

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session, 1066th meeting.*



Agenda item 15: Financial implications of actions of the Council*

CHECK LIST OF DOCUMENTS

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/3243 and Corr.1	Summary submitted by the Secretary-General	Mimeographed

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session, 1066th meeting.*

**ECONOMIC AND SOCIAL COUNCIL**

OFFICIAL RECORDS

ANNEXES

TWENTY-SEVENTH SESSION

MEXICO CITY, 1959

**Agenda item 16: Consideration of the provisional agenda of the twenty-eighth session
and establishment of dates for opening debate on items***

CHECK LIST OF DOCUMENTS

<i>Document No.</i>	<i>Title</i>	<i>Observations and references</i>
E/3210	Note by the Secretary-General	Mimeographed
E/L.828	Arrangement of business at the session : working paper prepared by the Secretary-General	Ditto

* For the discussion of this item, see *Official Records of the Economic and Social Council, Twenty-seventh Session, 1066th meeting.*