

**REPORT
OF THE
COUNCIL OF THE
UNITED NATIONS UNIVERSITY**

GENERAL ASSEMBLY

OFFICIAL RECORDS: THIRTY-SIXTH SESSION

SUPPLEMENT No. 31 (A/36/31)



UNITED NATIONS

New York, 1981

NOTE

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.

CONTENTS

	<u>Page</u>
REPORT OF THE COUNCIL OF THE UNITED NATIONS UNIVERSITY	1
<u>Annexes</u>	
I. Members of the Council of the United Nations University	19
II. Report of the Rector of the United Nations University to the Council of the United Nations University (July 1980-June 1981)	21
III. Members of the Advisory Committee	94
IV. Programme co-ordinators	96
V. Staff members of the United Nations University	98

REPORT OF THE COUNCIL OF THE UNITED NATIONS UNIVERSITY

I. OVERVIEW

1. The year under review marked the end of the first five years of operation of the United Nations University and the beginning of its next stage. On 1 September 1980 Mr. Soedjatmoko became the University's second Rector, succeeding Mr. James M. Hester, the first Rector. At the Council's fifteenth session, in June 1980, 10 of its 13 new members participated in Council deliberations for the first time, and at the sixteenth session, in December 1980, new Council officers were elected for 1981. Mr. Abdel Salam Majali, President of the University of Jordan, was elected Chairman of the Council, replacing Mrs. Ines Wesley-Tanaskovic, Professor of Informatics at the Medical Academy of the University of Yugoslavia, who had served as Chairman in 1979 and 1980.

2. The University engaged in a broad review and rethinking of its aims and activities in preparing to move into the next stage. To help the Council evolve a medium-term perspective for 1982-1987, the Rector presented his ideas for new goals, problem areas or themes, and modes of operation for the University. He also established a single Advisory Committee to replace the three programme advisory committees.

3. At the same time, there was continuity in research, advanced training and dissemination of knowledge efforts in the existing programmes of World Hunger, Human and Social Development, and Use and Management of Natural Resources. This is demonstrated by the following highlights of activities:

(a) The University now has 28 associated institutions and 112 research and training units carrying out United Nations University work in more than 60 countries. Two new associated institutions joined the United Nations University networks, the University of the West Indies in the World Hunger Programme, and the University of Bern in the Natural Resources Programme. The associations with two other institutions, both in the World Hunger Programme, were brought to a close.

(b) A total of 85 United Nations University Fellows are now in training, while another 75 have been identified and are waiting to begin training.

(c) Some 72 workshops, seminars, symposia and meetings were organized by the University during the year under review.

(d) The University published 93 titles during this period, with a significant increase in technical reports. It moved into the third volume of the two journals Food and Nutrition Bulletin and ASSET (Abstracts of Selected Solar Energy Technologies), publishing five issues of the former and ten of the latter, and also launched publication of a new journal, Mountain Research and Development. 1/

1/ A complete list of publications can be found in the Rector's Report to the Council (see annex II).

(e) Pledges to the Endowment Fund (\$US 140,099,082) and Operating Fund (\$US 4,643,645) from 34 Governments now total \$US 144 million, of which close to \$US 112 million has been received. During the year under review, \$US 4,343,053 was pledged and/or contributed by 19 Governments.

(f) During the 12-month period ending 31 December 1980, expenditures incurred for the operations of the University amounted to \$US 12,354,317. The planned expenditures for 1981 total \$US 15.6 million.

II. COUNCIL SESSIONS AND OFFICERS

4. The Council of the United Nations University met twice during the year 1980-1981: the sixteenth session was held in Tokyo from 1 to 5 December 1980; the seventeenth session was held at Geneva from 22 to 26 June 1981. At these sessions the Council reviewed the University's progress and heard the Rector's views about new developments for the University. At the sixteenth session the Council appointed an Ad Hoc Committee on Planning to work with the Rector on more concrete proposals for future directions and approved the Rector's proposed programme and budget for 1981.

5. In addition to the Chairman of the Council, the following officers were elected for 1981:

Vice-Chairmen of the Council: Mrs. Elise Boulding
Mr. Jean Coulomb (second term)
Father Felipe E. MacGregor
Mr. Malu wa Kalenga (second term)
Mr. Shizuo Saito

Committee on Finance and Budget

Chairman: Mr. Pawel Bozyk

Members: Mr. Ungku Abdul Aziz
Mr. Daniel Adzei Bekoe
Mr. André Louis Jaumotte
Mr. Victor Urquidi

III. THE THREE PROGRAMMES

6. Continuity of the three initial programmes of the United Nations University in the context of the development of new programme directions was emphasized by the Council. The multidisciplinary of the initial programmes and the increasing trend toward interprogramme collaboration has paved the way for the transition to a new programme emphasis on processes of global transformation.

A. World Hunger Programme

7. The World Hunger Programme devoted considerable attention to development of the recommendations of the meeting at Bellagio, Italy in May 1980, which reviewed the programme's conceptual basis and considered future directions, and to the formulation of appropriately revised objectives and a concomitant subprogramme structure. The over-all objectives of the World Hunger Programme were redefined as follows: to contribute to an understanding of the causes and consequences of hunger, both overt and hidden, and to initiate or promote the design, implementation, and evaluation of actions for its elimination.

8. During the year under review, the programme had 12 associated institutions and one training unit. In addition, a number of the programme's associated institutions developed co-operative links with other institutions to accept Fellows for all or part of their study. In January 1981 the association with the University of the West Indies came into effect. This University will work mainly with the subprogramme on Hunger and Society, providing training for Fellows from the Caribbean and English-speaking Africa.

9. Contacts of a more preliminary nature were also made with a number of institutions, notably the American University in Beirut, Lebanon, and the University of Ibadan and the University of Lagos in Nigeria. Site visits were also made to institutions in 33 other countries of Africa, Asia, Europe, Latin America, the Middle East, and North America. A proposal to establish a nutrition institution in the Persian Gulf area is being developed in collaboration with the United Nations Children's Fund (UNICEF).

10. The programme organized missions on behalf of the Administrative Committee on Co-ordination/Sub-Committee on Nutrition (ACC-SCN) to assess training needs and possibilities in Africa in Angola, the United Republic of Cameroon, the Ivory Coast, Mozambique, Senegal and Zaire. These followed earlier missions to Ethiopia, Kenya, the Sudan, and the United Republic of Tanzania.

11. The quarterly journal Food and Nutrition Bulletin, published in collaboration with the ACC-SCN, is in its third volume. Two more supplements to the Bulletin, "Food Price Policies and Nutrition in Latin America" and "Nutritional Evaluation of Protein Foods", were published; a third, "Protein-Energy Requirements of Developing Countries: Evaluation of New Data", is in press.

12. Monitoring and review of the programme work continued at the operational level, at the programme level and at the policy level.

13. The objectives of the Hunger and Society Subprogramme are to uncover the relationships between hunger as a poverty syndrome and societies as characterized by their specific economies, technologies, ideologies, and politics, and to initiate or promote the design, implementation and evaluation of policies and actions to eliminate hunger. Six project areas of top priority have been proposed: (a) Basic causes of hunger; (b) Hunger and the economic structure of society; (c) Government policies and peasant food production; (d) Methodologies for evaluation of food and nutrition effects of development projects; (e) Food as a human right and (f) United Nations resolutions on alleviating hunger.

14. A total of 42 Fellows have now completed training in this subprogramme (as at 15 May 1981); 14 are now in training and 13 are waiting to begin training.

15. The subprogramme on Hunger and Technology seeks to uncover the actual and potential effects, both positive and negative, of technology on hunger, and to initiate or promote the design, implementation and evaluation of policies and actions for the application of technology to contribute to the elimination of hunger.

16. A total of 36 Fellows have now completed training in this subprogramme (as at 15 May 1981); 19 are now in training and 6 are waiting to begin training.

17. The subprogramme on Hunger and Health seeks to bring to light the relationships between hunger and health within societies, and to initiate or promote the design, implementation and evaluation of policies and actions to eliminate ill health linked to hunger. The subprogramme is further concerned with ascertaining the functional and practical consequences of iron deficiency and anaemia in developing countries.

18. A major effort was made to obtain critical essential information on protein requirements of local populations living under the environmental conditions and consuming the diets prevailing in developing countries. New data from research sponsored in Bangladesh, Brazil, Chile, China, Colombia, Guatemala, India, the Republic of Korea, Mexico, Nigeria, the Philippines, Thailand, and Turkey, together with that from collaborating institutions in Japan, the United Kingdom of Great Britain and Northern Ireland, the United States of America and the Union of Soviet Socialist Republics, indicate the need for significant changes in current recommendations for protein and energy. Important new data have also been obtained on the additional protein requirements during episodes of infection and for catch-up after periods of stress; particular attention has been devoted to the catch-up of growth of young children following episodes of diarrhoea and other diseases of infectious origin.

19. The protein-energy research network has been successful. The results will provide a definitive data base for revision of current protein recommendations. The monograph "Evaluation of Protein Quality" was published by the University in March and has gained recognition as a major contribution to improved understanding of protein quality and better methods of measuring it.

20. The subprogramme's regional project on the causes and prevention of iron deficiency in Latin America is designed to determine the availability of iron in various foods and diets of the region, to identify suitable foods for fortification with iron, and to initiate fortification programmes. The University has sponsored workshops, organized by appropriate committees of the International Union of Nutritional Sciences (IUNS), on iron deficiency and cognitive performance and iron

deficiency and work output. At a meeting of the International Consultative Group on Iron at Bangkok, in October 1980, the surprising lack of information on the effects of sub-clinical iron deficiency was highlighted:

21. A total of 15 Fellows have now completed training in this subprogramme (as at 15 May 1981). 14 are now in training and 11 are waiting to begin training.

22. The activities of the World Hunger Programme are integrated within the United Nations system by participation in the Administrative Committee on Co-ordination (ACC) Sub-Committee on Nutrition and its Advisory Group on Nutrition. The Food and Nutrition Bulletin publishes appropriate reports of committees and working groups of the Sub-Committee and the Working Group. The University has collaborated closely during the past year with the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) in preparations for the October 1981 expert consultation for review and revision of protein-energy requirement estimates. The University has promoted international scientific co-operation by using committees of the International Union of Nutritional Sciences to carry out important activities in its subprogramme areas.

B. Human and Social Development Programme

23. Evolving out of the decision by the Council in January 1976 that the Human and Social Development Programme should have two focal points - development indicators and technology for development - two subprogrammes were established, one concerned with problems of development, the other with technology for development.

24. In the subprogramme on Problems of Development there were two initial projects: Goals, Processes, and Indicators of Development and Socio-cultural Development Alternatives in a Changing World.

25. In the subprogramme on Technology for Development there were three initial projects: sharing of Traditional Technology, Research and Development Systems in Rural Settings, and Technology Transfer, Transformation and Development: The Japanese Experience.

26. In order to integrate the initial five projects into a global framework, the programme is conducting several research activities. One such is concerned with the global problématique of the new international economic order. A series of regional meetings are being organized for intellectual leaders from different world regions to discuss fundamental problems which have been the concern of the United Nations since the sixth special session of the General Assembly, in 1971.

27. A colloquium on the African Perspective on the new international economic order, attended by 60 African scholars, was held at Addis Ababa, in May 1981. It was co-sponsored by Addis Ababa University with the active support of the Economic Commission for Africa, OAU, the Council for Development of Economic and Social Research in Africa, the African Association of Universities, and the African Institute for Development and Planning.

28. Another research activity concerns regional perspectives within the third world. The Arab Alternative Futures project has advanced the furthest; it takes into account not only the socio-economic but also the cultural dynamics within the Arab world. It seeks to identify the main trends affecting Arab development today

and explore their likely behaviour in the future, taking into account the over-all transformation in the world order that is occurring. The African Regional Perspectives is still in the planning stage; it is to be developed in close co-operation with the project of the United Nations Institute for Training and Research (UNITAR) on the Future of Africa. Similar research activities are planned for Latin America, where there will be a series of regional seminars, the first of which is scheduled for Mexico City in January 1982.

29. During the year under review, new emphasis was put on closer collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO); this was marked by a joint Human and Social Development Programme/UNESCO Meeting of Experts on the Role of New Theoretical Concepts on the Process of Development held at Ulan Bator, Mongolia, in August 1980.

30. As part of the research and planning activities of the Human Rights, Peace and International Law project, the programme co-sponsored, with the Hague Academy of International Law, a colloquium on the New International Economic Order: Commercial, Technological and Cultural Aspects, in October 1980, at the Hague.

31. The Steering Committee for the Arab Alternative Futures project, composed of scholars from different parts of the Arab World, met at Tunis, Tunisia, in October 1980 and at Cairo, Egypt, in March 1981.

32. During the year under review, 80 research papers in the programme's working paper series were published and distributed for comments and reaction. The various research units of the five projects completed and submitted additional research reports which are now being readied for publication. These include 24 reports from the Goals, Processes, and Indicators of Development project, 27 from the Socio-cultural Development Alternatives project, 7 from the Sharing of Traditional Technology project, and 22 from the Japanese Experience project.

33. The Goals, Processes, and Indicators of Development project has developed a network of 20 research units, each participating in subprojects studying different aspects of the goals, processes, and indicators of development.

34. The subprojects related to the goals of development deal with concepts/theories of development, human needs, human rights, alternative ways of life, visions of desirable societies, visions of desirable worlds, and non-territorial actors.

35. Those related to the processes of development focus on the process of expansion/exploitation, autonomy/liberation, militarization/demilitarization, processes in the United Nations system, and alternative strategies and scenarios.

36. Those concerned with indicators of development are studying indicators, dialogue networks, forms of presentation, tools of goals, processes and indicators of development, energy, economics, and a human development terminology dictionary.

37. The basic assumption underlying the project on Socio-cultural Development Alternatives in a Changing World is that the human and social development problématique must be repositioned to take into account important civilizational development alternatives that are emerging at a time when broad and rapid change is literally transforming the world.

38. The project has two subprojects: (a) Endogenous Intellectual Creativity and (b) Transformation of the World. The first held its third regional symposium for the Arab world in Kuwait, in March 1981. The second organized its second international seminar in Madrid, in September 1980, on "Economy and Society in the Transformation of the World".

39. Through various meetings in all parts of the world, the project has been able to mobilize, in a more or less continuous manner, more than 350 active scholars, intellectuals and policy-makers from Africa, Asia, Europe, and North and South America. The project now has 21 research units.

40. The project on Sharing of Traditional Technology involves: (a) study of traditional technologies in their social setting, with a view to understanding the functions they were expected to fulfil and the constraints within which they had to operate; (b) assessment to define precisely the limitations and drawbacks of traditional technologies from the standpoint of present day needs and conditions; and (c) transformation of technology by analysing the scientific context of traditional technologies in the language and idiom of modern science and engineering. This scientific insight can then be used to generate qualitative improvements with minimum change and alterations.

41. The project has seven research units: (a) Consumers Association of Penang, Malaysia; (b) Institute Dian Desa, Yogyakarta, Indonesia; (c) Thai Khadi Research Institute, Thammasat University, Thailand; (d) Marga Institute, Sri Lanka; (e) Development Research and Communication Group, Nepal; (f) Research Institute for Oriental Culture, Gakushuin University, Tokyo, Japan; and (g) the China Association for Science and Technology, Beijing, China, which joined the network in November 1980.

42. Technologies are at present generated within the framework of systems originating in the developed world, which is not adequate for the developing countries. The project on Research and Development Systems in Rural Settings emphasizes a research methodology that, while generating technologies appropriate to rural areas, also contributes to the building of new systems adequate for the needs and conditions of developing societies. It includes three research units: (a) Ethiopian Science and Technology Commission, (b) Institute for Studies of Rural Development, "Maya A.C.", Mexico and (c) Economic Development Foundation, Philippines.

43. The project on Technology Transfer, Transformation, and Development: the Japanese Experience, with 40 research units, studies the interrelationships between endogenous and foreign technology in the following combinations:

(a) Imported modern technology that replaced traditional or endogenous technology (for example, iron, steel, railway transport);

(b) Imported technology that failed to replace traditional technology (i.e., tractor farming);

(c) Imported technology that co-existed with traditional technology (i.e., the mining industry);

(d) Imported technology that was integrated with traditional technology (i.e., irrigation).

44. The project thus far, for financial reasons, has limited its activities to research in Japan. It is now planning a comparative study between the Japanese experience and the experiences of two third world countries - Brazil and Malaysia. This is to determine the validity of the Japanese Experience project and to gain better insight for further comparative research on experiences of non-Western countries in technology transfer and transformation.

45. During the year under review, 22 research reports were published, 16 in Japanese and 6 in English.

46. All of the continuing research projects of the Human and Social Development Programme will be concluded by the end of 1982 (and the Sharing of Traditional Technology project in 1981). New activities will be formulated after determination of the new orientation of the University. Many valuable research approaches and linkages with research institutions and with the other two University programmes have been developed and established.

C. Programme on the Use and Management of Natural Resources

47. The justification for the establishment of the Programme on the Use and Management of Natural Resources is that there is a global crisis in resource use and that humanity would be better served if special attention were paid to this problem. The programme is therefore committed to the promotion of provident and ecologically sound principles in the use and management of renewable natural resources through: (a) the generation of new knowledge and techniques related to resource use and (b) the dissemination and application of existing knowledge to selected critical problems of resource use, especially in developing countries.

48. The fourth year of the programme marked the end of expansion and the beginning of the consolidation period. The University of Bern became an associated institution, bringing the total programme associations to 11. The fellowship programme was stepped up, with 44 Fellows identified and waiting to begin training and 37 Fellows already in training.

49. There is a constant search for new ways to make the programme more sensitive to problem areas in the use and management of natural resources and to bring theory and practice closer together. To this end it has been proposed, subject to further development with the medium-term perspective as proposed by the Rector and approved by the Council, to regroup the main thrusts of the work of the programme into four major subprogramme areas, as follows:

(a) Resource policy and management in relation to the ecological basis for rural development;

(b) Resource policy and management in coastal zones;

(c) Assessment of the application of knowledge to arid lands problems;

(d) Energy systems and policies.

There is a deliberate effort to take up the policy aspects of the use and management of natural resources by addressing not only the scholars and researchers but also the policy-makers.

50. Continuing co-operation with other United Nations bodies was expanded during the period under review. The programme has also co-operated closely with the secretariat of the United Nations Conference on New and Renewable Sources of Energy in preparations for the Conference, to be held at Nairobi, in August 1981. Important contributions from the programme include the designation of ASSET as the official newsletter of the Conference.

51. Studies in the subprogramme of Resource Policy and Management in Relation to the Ecological Basis for Rural Development were initially confined to the humid tropics but they have now been extended to include countries such as China, the Republic of Korea and Nepal. There are three project areas: (a) agro-forestry systems, (b) highland-lowland interactive systems, and (c) water-land interactive systems.

52. The project on Agro-forestry Systems further expanded with the establishment of a research and training unit at the University of Freiburg, Federal Republic of Germany. The University of Bern, Switzerland, became an associated institution in the project on Highland-lowland Interactive Systems adding significantly to the project activities. Through Swiss assistance there will be an expansion of research work to include the problems of soil erosion and land management in the mountain areas of Ethiopia. The co-ordinator of the project spent several weeks in China in mid-1981 to advise on the establishment of a mountain research station. A major achievement of this project has been the launching of the quarterly journal Mountain Research and Development, co-published with the International Mountain Society.

53. The emphasis of the project on Water-land Interactive Systems is research on a series of interactions between land- and water-based production systems. Most of the work is concentrating on the effect of upland resource use on traditional fish production systems, with water as an integrating factor.

54. A new subprogramme on Resource Policy and Management in Coastal Zones has been developed on the basis of the great interest expressed by many developing countries in the Third United Nations Law of the Sea Conference and its implications for resource management in the marine environment in general and coastal zones in particular. Research and training programmes in Indonesia and the Pacific region will be continued along with an expansion of activity into east Africa, the Persian Gulf Region and the Caribbean.

55. In the subprogramme on Assessment of the Application of Knowledge to Arid Lands Problems the basic assumption is that if only a portion of the existing scientific and technical knowledge could be properly applied to arid lands problems there would be a definite improvement in the welfare of their populations. To this end a series of assessment studies have been sponsored at the University of Khartoum, the Sudan, and at the Central Arid Zone Research Institute in Jodhpur, India. The first set of studies have already been published. In 1980 three new sets of studies were begun. Projects in Australia, Pakistan, the United States of America, the United Kingdom and the Federal Republic of Germany were continuing, and new projects developing in Mexico, Peru and Chile. Workshops on desertification and arid land development were held at Trieste, Italy, Khartoum, the Sudan and Ougadougou, Upper Volta.

56. The subprogramme on Energy Systems and Policies has launched a new advanced training programme on renewable energy systems at the Indian Institute of

Technology, Delhi. The project on Integrated Renewable Energy is involved in the development of a fully automated and independently powered meteorological station in Algeria which is now obtaining base-line data on incident solar radiation, prevailing winds and precipitation conditions. This meteorological station is of a very original design. A second project is the development of a rural energy system in Dodoma, United Republic of Tanzania.

57. ASSET (Abstracts of Selected Solar Energy Technology) is now in its third volume, and its networks of scientists, engineers and decision-makers involved in renewable energy activities continue to develop. The ASSET network now includes 900 individual contributors. While most of the recipients of ASSET are from developing countries, a number of institutions and agencies in industrialized countries have also asked to receive it on a regular basis - including, for example, the United States space agency, the National Aeronautics and Space Administration (NASA).

58. The Fuel Wood project at the University of Ife, Nigeria, is nearing completion with publication of project papers. In addition to the publications, a general review of the fuel wood production in the tropical areas of Africa has been prepared. It concludes that fuel wood plantations will have to be established in many areas in order to meet the increasing demand. The Geothermal Energy Training project carried out at the University of Iceland with the National Energy Authority in Iceland, continued with the training of United Nations University Fellows and participants from United Nations agencies.

D. Interprogramme activities

59. The University has two active joint programme projects at the moment. The first, involving the World Hunger Programme and the Human and Social Development Programme, is a joint research project on "The Role of Women in Post-harvest Food Conservation". Five case studies have already been carried out - in Costa Rica, India, Indonesia, Sri Lanka and the United Republic of Tanzania. The second, involving the World Hunger Programme and the Natural Resources Programme, is a joint project on "Bioconversion of Organic Residues for Rural Communities". It is concentrating on supporting research at the Shri AMM Murugappa Chettiar Research Centre in Madras, India, which is examining the potential of integrated production systems at the village level to provide optimum utilization of land for food and energy.

IV. THE UNITED NATIONS UNIVERSITY'S MEDIUM-TERM PERSPECTIVE, 1982-1987

60. Following the initiation of the medium-term planning process by the Council in 1979/80, the Rector presented some initial thoughts on future directions for the University at the sixteenth session of the Council, in December 1980. These were contained in his "Statement on the United Nations University's Next Stage". The Council asked the Rector to develop his ideas more fully within a medium-term perspective for 1982-1987 to be presented to the Council in draft form at the seventeenth session, in June 1981, and in definitive form at the eighteenth session, in November 1981.

61. In December 1980, the Council appointed an Ad Hoc Committee on Planning, consisting of Mr. Shams E. El-Wakil, Mr. Dennis H. Irvine and Mrs. Ines Wesley-Tanaskovic, with Mr. Satish Chandra and Sir John Kendrew as alternative members and with ex officio members representing the Secretary-General of the United Nations and the Director-General of UNESCO, to consult with the Rector and:

- "(a) To advise the Council on the long-term orientation of the University, taking into account the statement of the Rector at the sixteenth session of the Council and the opinions expressed by the Council, as well as the Committee's consultations with the Rector;
- "(b) To advise the Council on the framework of the medium-term plan to be formalized, the institutional arrangements, the possible evolution of the three existing programmes, and the development of new activities;
- "(c) To review such new activities as may be included in the medium-term plan indicating their policy, institutional and financial implications, including the order of priorities among those activities, and bearing in mind the University's experience both at the centre and in its various associated institutions and networks;
- "(d) To advise the Council on the criteria for establishing associated institutions and incorporated institutions of the University."

62. The Ad Hoc Committee held a meeting in Tokyo (27 April-1 May 1981) and presented its interim report to the seventeenth session of the Council.

A. Policy guidelines

63. In connexion with the Rector's preparation of the University's medium-term perspective, the Council, in December 1980: (a) agreed in general with the Rector's ideas in his statement to the Council, "The United Nations University's Next Stage", concerning the continuation and development of the existing programmes as well as the broadening of the intellectual concerns and scope of the University; (b) agreed with the principle of (i) strengthening the intellectual and planning capabilities of the United Nations University centre; (ii) establishing a permanent headquarters; (iii) further exploring the establishment of incorporated institutions, including

an Institute for Advanced Studies as an incorporated institution in Japan, with the support of the Government of Japan as part of its initial offer in inviting the United Nations University to establish its headquarters in Tokyo; and (iv) strengthening relationships between the United Nations University and Japanese scholars, universities and other institutions; and (c) agreed that the United Nations University should develop and strengthen its working relationships with the world's university and research systems in research, advanced training, and dissemination of knowledge, and that the United Nations University should further explore its possible teaching and training roles as well.

64. In further providing guidelines to the Rector for the preparation of a medium-term perspective, the Council, at its sixteenth session, sought to identify those characteristics which would help give the institution its distinctiveness as the United Nations University. Among the characteristics cited were the need to (a) define and analyse problems and present the global problématique innovatively; (b) concentrate on global problem areas not commonly studied by other institutions; (c) deal with problems holistically or comprehensively and at various levels of their manifestations; (d) be flexible and responsive to the needs and expectations of peoples around the world; (e) assist in scientific institution-building in third world countries; and (f) develop the art and science of interdisciplinarity, examining its epistemology and fostering its development and application.

. B. Rector's proposals on institutional and programme development

65. At the Council's seventeenth session, the Rector, in his paper on institutional and programme development within a medium-term perspective, noted the need for continuity, change and flexibility, and the concurrence of the Ad Hoc Committee on Planning with his views, as follows:

"In relation to the purposes in the Charter and the continuing goals and functions ... the scope of the University's activities can be broadened by adopting certain 'themes' which would be the priority concerns and problem areas for the medium-term (1982-1987). These themes will incorporate and extend the original three problem areas of World Hunger, Human and Social Development, and Use and Management of Natural Resources.

"The University must at all times ensure its flexibility and effectiveness in responding to and anticipating pressing global problems and emerging crises. It should not be circumscribed by existing programmes, much less be burdened by marginal activities. Accordingly, it is suggested that certain themes be defined, based on the University's Charter, that will aid in determining the University's intellectual concerns and priority areas of research, post-graduate training, and dissemination of knowledge during the medium-term period from 1982 to 1987. Together the themes proposed will widen the scope of the University's activities beyond its initial problem areas and enhance its flexibility."

66. The following five themes, based on the University's Charter, were presented by the Rector to the Council for its consideration and endorsement:

- (a) Peace, security, conflict resolution and global transformation;
- (b) The global economy;

- (c) Hunger, poverty, resources and the environment;
- (d) Human and social development and co-existence of peoples, cultures, and social systems;
- (e) Science, technology and their social and ethical implications.

67. The Rector further proposed that instead of organizing on the basis of the initial three problem areas as had been the case up to the present, a new approach should be taken. In order to orient the University to its purposes and goals, to make it a significant global institution serving humankind and the United Nations system, as well as to develop its various existing and emerging activities into a coherent and globally responsive and effective over-all programme, the Rector proposed a diversification of the University's modes of operation, as follows:

- (a) Development research: research aimed at evolving knowledge and modes of thinking concerning the global society and disseminating them;
- (b) Global studies: participation in the international debate on global issues and problems in and outside the United Nations system through symposia, conferences, commissions, study groups, and the like;
- (c) Global learning: communications, dissemination of knowledge, and the development of an innovative world-wide educational service.

More details about the proposed reorganization would be submitted to the Council at the eighteenth session in November.

68. The Rector made further recommendations to the Council as follows:

(a) University Centre: He noted that it was a matter of high priority for the University to enhance the intellectual strength of the centre. This could be done by widening the range of disciplines and expertise represented by the centre staff, by enlarging this staff and redefining its roles, by creating a planning and evaluation division, by a more systematic decentralization, by inviting outstanding visiting scholars and senior research fellows to spend varying periods in Tokyo and work with the centre staff - if possible by secondment to the University from various Governments and universities. The eventual establishment of an Institute for Advanced Studies based in Japan and close to the headquarters would greatly enhance the intellectual capacity of the University centre.

(b) Decentralization: According to the Rector, the University must increasingly work in a decentralized structure that would at the same time ensure results and accountability for work of high quality by its collaborating scholars and institutions throughout the world. There should no longer be open-ended programmes; instead the University should have projects with definite termination periods.

(c) Networks: The networks of the University would not be permanent. Their lifetime would be closely connected to the project or activity in which they were involved. However, the scholars and scientists who worked with the University through the networks were continuing members of its growing international community upon whom the University should be able to call. The University should keep them well informed and interested in the University's work and growth.

(d) Associated institutions should increasingly reflect a creative two-way partnership with the University in which the human and material resources of both institutions can be effectively combined to achieve shared goals.

(e) Staff and budget for 1982: The Rector stated that no substantial increase in the level of staff at the professional and administrative levels was expected in 1982. A number of vacancies that existed in the authorized staffing table for 1981 would be filled, but this action would not necessitate any budgetary increase. There would, however, be a reorganization of the centre, including the reassignment of staff according to the new orientation of the University.

69. The 1982 budget would reflect a modest growth in its total outlay, the Rector stated. Approximately 30 per cent of the budgeted funds would be devoted to new activities and the balance used to meet commitments already made by the existing programmes. As the University moved on to the 1983 and future budgets the proportion of funds for new activities would increase. However, the University was already making serious efforts to solicit project funding to enable it to increase the scope of its activities that could not be covered by the guaranteed income derived mainly from the Endowment Fund. It was for this purpose that the University needs to build a bank of reserve projects.

70. Three possible incorporated institutions to be associated with the United Nations University were being explored: an Institute for Advanced Studies in Japan, an International Economic Policy Research Institute, and an Advanced Institute for Natural Resources in Africa. The explorations would involve wide and intensive consultations and take about two years in each case. The Council would make the final decision on the academic feasibility and the institutional and financial viability of each proposed incorporated institution.

C. Evaluation

71. In discussion the Council stressed the importance of evaluation of programme activities to determine their results and effects in relation to their own objectives and to the purposes and goals of the University. The Council agreed that criteria and mechanisms for built-in review and evaluation should be established when a particular project or activity was being designed. In addition to the review of scholarly work by those immediately concerned there should be an independent evaluation by scholars who have not been involved in the project or activity.

D. Basic considerations for the medium-term perspective

72. At its seventeenth session, the Council had a thorough discussion of the report of the Ad Hoc Committee on Planning and the Rector's paper entitled "Some Basic Considerations for the Institutional and Programme Development of the United Nations University Within a Medium-Term Perspective (1982-1987)" in the course of which Council members made many valuable comments and suggestions on the Rector's proposals. At the conclusion of the discussion, the Council expressed its general agreement with the proposals of the Rector contained in his paper; these included: (a) the long-range orientation of the University based first of all on the purposes spelt out in the Charter; (b) the themes or priority concerns and problem areas of the University for the medium-term period 1982-1987; (c) the three

modes of operations, and, as mentioned above, (d) the establishment of a Planning and Evaluation Unit; and (e) the strengthening of the intellectual capacity of the centre staff and ensuring the high scholarly and scientific quality of the University's research, post-graduate training and dissemination of knowledge.

73. It was understood that the Rector would fully take into consideration the many valuable comments and suggestions of Council members in refining his proposals for incorporation in the draft document on the United Nations University's medium-term perspective (1982-1987) which he would be preparing. This draft document will be discussed by the Rector with the Ad Hoc Committee on Planning prior to its finalization and submission by him for the Council's consideration and approval at its eighteenth session. The draft document will contain more specific proposals regarding evaluation and selection of projects to be continued, and concerning the themes and modes of operation, the new activities being explored, and the organizational, institutional, staffing, financial, and other implications of the proposed new orientation and reorganization of the University. Together with the proposed medium-term perspective document for 1982-1987, the Rector will submit at the eighteenth session the proposed programme and budget for 1982 which shall reflect such proposed new orientation and reorganization.

V. FINANCE 2/ AND FUND-RAISING

74. During the period 1 July 1980 to 18 June 1981, \$US 4,343,053 was pledged and/or contributed to the University by 19 Governments. These contributions, for the most part, reflect payments on endowment pledges made in previous years or the continuation of annual contributions. The Governments of Jordan, Mexico, and the United Arab Emirates made new pledges or contributions to the Endowment Fund. The Governments of Algeria and Argentina made their first contributions to the Operating Fund. Pledges to the Endowment Fund and Operating Fund from 34 Governments now total \$US 143,742,727 of which \$US 112,069,014 has been received. An additional \$US 388,980 has so far been received from non-governmental and other sources in support of specific projects.
75. A number of Governments, institutions, and others have made indirect contributions in cash and in kind towards the work of the University. It should also be noted that the University's support to associated institutions research and training units, and other participants in the University's networks has in turn helped in obtaining extra funds for the activities of these institutions from their Governments and other sources within each respective country.
76. The Council of the University, at its sixteenth session, in December 1980, in reviewing the Rector's report on fund-raising, emphasized the importance of the Endowment Fund as the principal source of income for the University and reiterated the importance of establishing a universal base for funding by generous contributions from all Member States to provide the resources necessary for the University to continue its work in accordance with its global mandate. The Council also reconfirmed the importance of obtaining additional financial resources, over and above the goals for the Endowment Fund, to support major global and regional projects, including the establishment of incorporated institutions. Such funds should preferably be special "earmarked" capital contributions for long-term institutional commitments or multiannual financial agreements to support major projects of the University.
77. During the period under review, the University negotiated the funding of a number of major projects and institutional developments with intergovernmental agencies such as the Development Fund of the European Economic Community and the United Nations Development Programme (UNDP). Explorations for funding possibilities from foundations and other funding agencies have also continued, and preparation of concrete project proposals for consideration by these sources has begun.
78. As the University moves into its next stage of programme and institutional development, it expects increasingly to raise substantial financial support for its major projects and proposed incorporated institutions from different sources, and it hopes, above all, that a number of Governments will soon decide on generous contributions to the Endowment Fund of the University.

2/ For further details, see the Rector's Report to the Council (annex II, paras. 239-246).

VI. DEVELOPMENT FORUM

79. At its seventeenth session, the Council approved the Rector's recommendations that the University continue its association with Development Forum in 1982 and 1983 but at a reduced level of support of \$US 150,000 in 1982 and an amount to be decided, which should not be less than \$US 100,000 in 1983; and that the United Nations University retain its role as co-publisher subject to negotiation with those concerned in the United Nations system.

VII. ASSOCIATION WITH THE UNIVERSITY FOR PEACE

80. The Council welcomed the coming into force of the International Agreement for the Establishment of the University for Peace and Charter of the University for Peace (General Assembly resolution 35/55, annex, of 5 December 1980). In this connexion, the Council requested the Rector to convey the Council's congratulations and warm feelings of goodwill towards the University for Peace. The Council will look forward to reaching common agreement on the type of association which may link the two institutions in line with the Council's opinions expressed at its twelfth session. It is expected that steps in this direction will be taken once the Council for the University for Peace and its Rector have been appointed and the programmes of the University for Peace begin to take shape.

VIII. PERMANENT SITE FOR THE UNIVERSITY'S HEADQUARTERS

81. The Council expressed its profound appreciation to the Government of Japan and the government of Tokyo for their vigorous efforts to provide the United Nations University with a permanent site for its headquarters in Metropolitan Tokyo. The government of Tokyo has formally written to the Ministry of Education conveying the decision of the City to offer the University the use of a choice site along Aoyama Avenue. Negotiations are underway to seek the final approval of the Government of Japan. The provision of a permanent site and the building of the University headquarters are provided in the formal agreement between the United Nations and Japan in 1976. It is hoped that the headquarters building will be completed in time for the tenth anniversary of the establishment of the United Nations University in 1985.

ANNEX I

Members of the Council of the United Nations University

Appointed members

- Dr. Abdel Salam Majali, Vice-Chairman, Board of Trustees, University of Jordan; President and Professor of the University of Jordan; former Minister of Education, of State for Prime Ministry Affairs, and of Health, Amman, Jordan (Chairman of the Council, from December 1980)
- Dr. (Mrs.) Ines Wesley-Tanaskovic, UNESCO National Commission of Yugoslavia and Professor of Informatics, Medical Academy, Belgrade, Yugoslavia (Chairman, December 1978-December 1980)
- Dr. (Mrs.) Estefania Aldaba-Lim, former Special Representative for the International Year of the Child, UNICEF, New York; former Minister for Social Services and Development, Manila, Philippines; and former Vice-President, Philippine Women's University
- Professor Ungku Abdul Aziz, Vice-Chancellor and Royal Professor of Economics, University of Malaya, Kuala Lumpur, Malaysia
- Dr. Daniel Adzei Bekoe, Vice-Chancellor, University of Ghana, Legon, Ghana
- Dr. (Mrs.) Elise M. Boulding, Professor and Chairman, Department of Sociology, Dartmouth College, Hanover, New Hampshire, United States of America (Vice-Chairman)
- Dr. Pawel Bozyk, Professor of Economics, Central School of Planning and Statistics, Warsaw, Poland (Chairman, Committee on Finance and Budget)
- Dr. Carlos Chagas, Director, Institute of Biophysics, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil.
- Dr. Wilbert Kumaliya Chagula, Ambassador, Permanent Mission of Tanzania to the United Nations in Geneva; former Principal of the University College, Dar-es-Salaam, Tanzania
- Dr. Satish Chandra, former Chairman, University Grants Commission, New Delhi, India; Professor and former Dean, School of Social Sciences, Jawaharlal Nehru University
- Dr. Jean Coulomb, former President Academy of Sciences, Paris, France (Vice-Chairman)
- Dr. Valy Charles Diarrassouba, Rector, National University of the Ivory Coast, Abidjan, Ivory Coast
- Dr. Shams E. El-Wakil, Ambassador, Permanent Delegate of the Arab Republic of Egypt to UNESCO, Paris, France; former Minister of Higher Education, Egypt

Dr. Dennis H. Irvine, Vice-Chancellor and Principal, University of Guyana;
Chairman Guyana National Science Research Council, Georgetown, Guyana

Professor André Louis Jaumotte, President of the Council, Free University of
Brussels, Brussels, Belgium

Professor Dr. Reimut Jochimsen, Minister for Economics and Transportation,
State of North Rhine-Westphalia, Düsseldorf; Professor of Economics,
University of Kiel; former Minister for Science and Research, Federal Republic
of Germany, former member of the United Nations University Council (1974-1977)
(Chairman, Committee on Programme and Institutional Relations)

Dr. F. S. C. P. Kalpage, Secretary, Ministry of Higher Education; Chairman,
University Grants Commission; and Vice-Chairman, National Science Council,
Colombo, Sri Lanka

Sir John Kendrew, Director-General, European Molecular Biology Laboratory,
Heidelberg, Federal Republic of Germany; former Secretary-General, International
Council of Scientific Unions, Paris, France

Dr. Karl Eric Knutsson, Secretary-General, Swedish Agency for Research Co-operation
with Developing Countries (SAREC); Professor, Stockholm University, Stockholm,
Sweden

Dr. Felipe E. MacGregor, Rector Emeritus and Professor of Ethics, Catholic
University, Lima, Peru (Vice-Chairman)

Professor Malu wa Kalenga, Commissioner of Nuclear Sciences and Director,
Kinshasa Regional Centre for Nuclear Studies, National University of Zaire,
Kinshasa, Zaire (Vice-Chairman)

Mr. Shizuo Saito, Council Member, United Nations Institute for Training and
Research (UNITAR); member, Japanese National Commission of UNESCO; and
President, Foreign Press Center of Japan, Tokyo, Japan (Vice-Chairman)

Professor Victor L. Urquidi, President, El Colegio de Mexico, Mexico City,
Mexico; former member of the United Nations University Council (1974-1977)

Dr. Stephan Verosta, Professor of International Law, International Relations
and Jurisprudence, University of Vienna, Vienna, Austria

Rector

Soedjatmoko

Ex officio members

Mr. Kurt Waldheim, Secretary-General, United Nations, New York,
United States of America

Mr. Amadou Mahtar M'Bow, Director-General, United Nations Educational, Scientific
and Cultural Organization, Paris, France

Dr. Davidson Nicol, Executive Director, United Nations Institute for Training
and Research, New York, United States of America

ANNEX II

Report of the Rector of the United Nations University to the Council of the United Nations University (July 1980-June 1981)

CONTENTS

	<u>Paragraphs</u>	<u>Page</u>
I. Highlights of the year	1 - 2	23
II. Orienting and reorganizing the university for its next stage	3 - 17	24
III. World Hunger Programme	18 - 82	29
A. Over-all progress	26 - 27	29
B. <u>Ad hoc</u> working groups	28 - 30	30
C. Subprogrammes	31 - 69	30
D. Co-operation with United Nations agencies and other international organizations	70 - 74	42
E. Programme interaction	75 - 82	43
IV. Human and Social Development Programme	83 - 150	46
A. Subprogrammes	88 - 95	46
B. Projects	96 - 148	48
C. Programme interaction	149	57
D. Conclusion	150	57
V. Programme on the Use and Management of Natural Resources	151 - 184	65
A. Subprogrammes	157 - 183	66
B. Project interaction	184	71
VI. Programme support activities	185 - 224	74
A. Academic Services	185 - 197	74
B. Information Services	198 - 213	81
C. Administrative Services	214 - 224	83

CONTENTS (continued)

	<u>Paragraphs</u>	<u>Page</u>
VII. Planning and development	225 - 238	86
A. Institutional development and other relations . . .	227 - 230	86
B. Fund-raising	231 - 238	87
VIII. Finance and budget	239 - 246	91

I. HIGHLIGHTS OF THE YEAR

1. The year under review was a milestone in the evolution of the United Nations University. It saw the end of the University's first five years since it began operating in September 1975 under the first Rector, and the beginning of the University's next stage under the leadership of the new Rector. The University was engaged in a broad-scale review and rethinking of its aims and activities in preparing to move into the next stage. With a view to helping the Council evolve a medium-term perspective for 1982-1987, the Rector presented his ideas for new goals, problem areas or themes, and modes of operation for the University. He also created a single Advisory Committee to replace the three programme advisory committees.

2. Thus the year was very much characterized by preparation for basic change, and the three existing programmes were all involved in a process of reassessment of their work and developing new conceptualizations and methodologies to guide their future activities. At the same time, there was continuity in research, advanced training, and dissemination of knowledge efforts in the existing programmes of World Hunger, Human and Social Development, and Use and Management of Natural Resources. This is demonstrated by highlights of activities:

(a) The University now has 28 associated institutions and 112 research and training units carrying out University work in more than 60 countries. Two new associated institutions joined the University networks, one in the World Hunger Programme, and one in the Natural Resources Programme. The associations with two other institutions, both in the World Hunger Programme, were concluded.

(b) A total of 85 University Fellows are now in training, while another 75 have been identified and are waiting to begin training.

(c) Some 72 workshops, seminars, symposia and meetings were organized by the University during the year under review.

(d) The University published 93 titles during this period, with a significant increase in technical reports. It moved into the third volume of the two journals Food and Nutrition Bulletin and ASSET, publishing five issues of the former and ten of the latter, and also launched publication of a new journal, Mountain Research and Development.

(e) Pledges to the Endowment Fund and Operating Fund from 34 Governments now total \$US 144 million, of which close to \$US 112 million has been received. During the year under review, \$US 4,343,053 was pledged and/or contributed by 19 Governments.

(f) During the 12-month period ended 31 December 1980, expenditures incurred for the operations of the University amounted to \$US 12,354,317. The planned expenditures for 1981 are \$US 15.6 million.

II. ORIENTING AND REORGANIZING THE UNIVERSITY FOR ITS NEXT STAGE

3. The year under review marked the end of the first five years of operations of the United Nations University and the beginning of its next stage. On 1 September 1980, Mr. Soedjatmoko became the University's second Rector, replacing Dr. James M. Hester, the founding Rector. At the Council's sixteenth session, in December 1980, 11 of the 13 new members of the Council participated in its deliberations for the first time, and new Council officers were elected for 1981. Dr. Abdel Salam Majali, President of the University of Jordan, was elected Chairman of the Council, replacing Dr. Ines Wesley-Tanaskovic, Professor of Informatics at the Medical Academy of the University of Yugoslavia, who had served as Chairman in 1979 and 1980.
4. When Mr. Soedjatmoko assumed office, the University's medium-term planning was already underway and the Council had begun to consider various options on the future direction and restructuring of the University. As his contribution to that process, the new Rector presented his statement on the University's next stage to the Council in December. At the same session, the Council agreed that 1981 would be a year of transition to the University's next stage, looking beyond the 1980s and into the twenty-first century. While taking such a longer-term view, the Council anticipated that by its eighteenth session, in late November 1981, the collective review, consultations, and planning would culminate in concrete decisions concerning the new directions of the University's growth and development for a medium-term perspective for 1982-1987.
5. In thinking about the reorientation and restructuring of the University, the Rector was guided by, among others, the questions posed by the Ad Hoc Committee on Planning for a Medium-Term Plan in its report to the Council in April 1980. With the Committee's questions and their implications in mind, he held discussions with the new Advisory Committee in March 1981, with the Council's Ad Hoc Committee on Planning in late April, and at various times with members of the University's staff and a number of consultants and project co-ordinators. Thus, together with the Council discussions in December 1980 and extended staff review of the state-of-play of the University's programmes, the Rector had ample basis for preparing a paper entitled "Some Basic Considerations for the Institutional and Programme Development of the UN University Within a Medium-Term Perspective (1982-1987)", which he submitted to the Council at its seventeenth session, in Geneva, in June 1981.
6. This paper outlined his main ideas in operational terms. The Rector proposed to the Council for its consideration and endorsement a number of fundamental ideas about ways for:
- (a) Articulating the continuing goals of the University on the basis of its Charter and a consideration of its specific global context and historical circumstances;
 - (b) Broadening the University's priority problem areas or themes for the medium-term in response to the expectations of the University's constituencies that it address a wider range of current pressing global problems as well as emerging global crises;
 - (c) Diversifying the University's modes of operation to enable it effectively to perform the varied functions specified in the Charter and to discharge its

responsibilities to the United Nations system, to the world-wide community of learning and research, and to the world's public at large.

The Rector's paper also outlined some of his proposed changes in organizational structure and institutional relations.

7. In relation to the purposes and continuing goals and functions, as specified by the Charter, the Rector proposed that the scope of the University's activities be broadened by adopting certain "themes" that would be the priority concerns and problem areas for the medium term (1982-1987). They would incorporate and extend the original three problem areas of world hunger, human and social development, and use and management of natural resources. They are intended to enhance the University's relevance to a broader range of problems of global significance and urgency. It may be added that the themes, once adopted by the Council, would be useful in the planning, review and evaluation of activities and the University's relevance to problems of national, regional and global importance. The themes would also help the University and its prospective collaborating scholars and institutions in ascertaining possible areas of mutual interest and competence.

8. Specifically, the Rector proposed to the Council the following five themes for its consideration and endorsement:

- (a) Peace, security, conflict resolution and global transformation;
- (b) The global economy;
- (c) Hunger, poverty, resources and the environment;
- (d) Human and social development and co-existence of peoples, cultures and social systems;
- (e) Science, technology and their social and ethical implications.

Overarching these themes is the basic concern in the Charter for "human survival, development and welfare". This concern encompasses, in the Rector's view, universal human rights, the values of peace, justice and equity, and the quest for an international order based on them that can be maintained without recourse to war and threats of violence and is also sensitive to the world's poor and dispossessed and other marginalized segments of societies.

9. In addition to the five themes, the Rector proposed the diversification of the University's modes of operation or ways of organizing and conducting its assigned functions of research, advanced training, and dissemination of knowledge so that, as much as possible, it can:

- (a) Ensure the high scholarly and scientific quality of those functions;
- (b) Widen participation in these functions as the University focuses on the proposed themes in order to extend its global outreach;
- (c) Deal with problems fully and comprehensively;
- (d) Maximize the University's impact on the problems with which it is dealing, in interaction with its overlapping constituencies identified in the Charter, the

United Nations system, the world-wide community of learning and research, and the public at large.

10. In pursuit of its purposes and programme objectives to date, the University has developed and employed a particular combination of approaches and modalities in organizing and conducting its assigned functions that have emphasized research and advanced training related to development. The Rector has referred to this combination as the "Development Research" mode. However, as the University broadens the scope of its concerns and activities, it also has to design and develop other appropriate modes of operation.

11. If the University is to become an institution of global significance and impact, it must undertake much more than development research. It must also address global problems more broadly, studying how they manifest themselves in various parts of the world. It must engage in other kinds of scholarly and scientific work that will broaden participation in its activities and relate them to the concerns of its constituencies. These considerations require different combinations of approaches and modalities for the University's functions of research, advanced training, and dissemination of knowledge.

12. Therefore, in addition to development and research, the Rector proposed two other modes of operation: "Global Studies" and "Global Learning". These three modes would be specific and distinctive combinations of scientific and organizational approaches and methods that the University should utilize in organizing and conducting its functions of research, advanced training, and dissemination of knowledge.

13. Analytically, these modes will relate particular global problems to specific regional, national and local problems, since none of these problems can be adequately dealt with in isolation from each other in this age of growing interdependence. These modes will also relate the University's research activities to its advanced training and dissemination of knowledge activities but in different degrees and in different combinations of approaches and methodologies. Thus, together the three modes can be a cycle of operations that will help to interrelate the work of the University at different levels of analyses, in all its three functions, in various parts of the world, and in relation to its scattered and varied constituencies.

14. Instead of organizing on the basis of the initial three problem areas, the University should therefore arrange its activities into three divisions on the basis of the three modes:

(a) Development Research

Many of the problems which fall within the range of the five themes will require empirical research devoted to problems and processes of human survival, development and welfare that are of global significance. Such research involves field work, experimentation, and related advanced training, combining the natural and social sciences. It includes the testing of hypotheses, propositions and prescriptions, and the development of theory that could lead to a better understanding and the solution of problems. The linkage of problems at the local and micro levels with their systemic dimensions at the national level, and also at the regional and global level, could be accommodated within this particular mode of

operation through the University's international networks of scholars and institutions engaged in comparative research. The results of the research in this mode could contribute knowledge that would be useful to the two other modes. Conversely, work in the other two could also suggest further research in this mode.

(b) Global Studies

In this mode, University-associated scholars from the various regions will address contemporary and future global problems and crises through innovative conceptual, theoretical, comparative, speculative, and philosophical research and discussions, building on empirical research. In this way, the University will identify the established and emerging schools of thought, scientific paradigms, ideologies, and cultural traditions; it will invite scholars representing them to participate in a further testing of hypotheses, propositions and policy ideas emanating from its work, and to suggest new problems for collaborative research and reflection. Beyond working together in their own meetings and networks, and also utilizing the results of the work done in the Development Research mode, University scholars will directly address a large constituency consisting of the United Nations system, various international organizations, decision-makers in Governments and other types of institutions participating in the international debate on global issues and problems, as well as those research institutes and universities interested in the University's global studies, such as the new University for Peace in Costa Rica.

(c) Global Learning

In this mode the University would broaden its institutional capacity for responding to the learning needs of people across the globe in, and outside, the universities and other centres of learning. The University would extend its outreach beyond the distribution of publications, the research networks, and the direct participation in international scientific unions and professional societies in its Development Research mode and beyond the dialogical research and discussions in its Global Studies mode. Through its global learning activities the University would contribute to the effort in many countries to combine and enrich both formal higher education and non-formal ways of creating, preserving, transmitting and utilizing knowledge for the common welfare. The University could use various approaches and methods to help societies build their basic scientific capacities, deal with pressing global problems and prepare for their future in a world undergoing profound transformation.

15. The University could tap the world's expertise and modern technology in communications to greatly expand the conventional methods of dissemination of knowledge. It could act as part of a global open university system in collaboration with a consortium of open universities and other distant learning institutions, joining in the assessment, development and use of more effective distant learning methods, audio-visual materials and reading lists, in producing video-taped courses and lectures by eminent world scholars, and in the training of tutors for distant learners. It could organize a United Nations University annual distinguished scholar lecture series to be delivered by eminent scholars, statesmen or other leaders and the lectures could be recorded on video-tape and widely disseminated. It could establish competition offering awards to young scholars for writing doctoral theses on subjects related to its chosen themes.

16. In proposing the five themes and three modes of operation, the Rector stressed that the efforts to redirect and restructure the University are set in a world engulfed in compounding crises: persistent and widespread violence, poverty, injustice, unemployment and inflation, militarization and the armaments race, the food crisis, the energy crisis, the environmental crisis, and the global economic crisis. The world suffers from fragmentation and the breakdown in the management of social systems and in the global dialogue between North and South, and East and West. Indeed, the world may well be drifting into a thermo-nuclear third world war. As the world population moves from 4.5 billion to over 6 billion by the year 2000 and to about 8 billion in the next two generations, economic growth will generate an enormous demand for natural resources, capital goods and human skills.

17. The urgency of redirecting and reorganizing the University is demanded by the recognition that these realities, which have become more acute since the founding of the University, and the fact that in an increasingly crowded, competitive, insecure and fragile world, humankind badly needs valid, viable and persuasive ideas and solutions for dealing with the unprecedented scale, pervasiveness and complexity of national and global problems and for providing the requirements of human survival, development, and welfare. This takes on particular urgency at a time when many universities and other centres of learning are experiencing difficulties in preparing their societies for rapid social and environmental changes taking place at home and in the world at large.

III. WORLD HUNGER PROGRAMME

18. In May 1980, the World Hunger Programme convened a meeting at Bellagio, Italy, to review the conceptual basis of the programme and consider its future directions. The recommendations emerging from the meeting stressed the importance of focusing on the social, economic and political roots of hunger, and encouraged greater interaction with the other two programmes of the University.
19. During the remainder of 1980, the programme devoted considerable attention to development of the Bellagio recommendations and the formulation of appropriately revised objectives and a concomitant subprogramme structure. The over-all objectives of the World Hunger Programme were defined as follows:
- "To contribute to an understanding of the causes and consequences of hunger, both overt and hidden, and to initiate or promote the design, implementation, and evaluation of actions for its elimination".
20. The approaches used to achieve these objectives are interrelated in the three subprogrammes: Hunger and Society, Hunger and Technology, and Hunger and Health.
21. Following Council approval of the objectives (in December 1980), three ad hoc working groups (one for each subprogramme) met to outline the principal area of work in each subprogramme and to assign priorities to the different projects within each.
22. In January 1981, the association with the University of the West Indies came into effect. During the year under review, the programme had 12 associated institutions and one training unit (see list following para. 69 below). In addition, a number of the associated institutions have developed co-operative links with other institutions to accept Fellows for all or part of their study.
23. Contacts of a more preliminary nature were also made with a number of institutions, notably the American University in Beirut, Lebanon, and the Universities of Ibadan and Lagos in Nigeria. Site visits were also made to institutions in 33 other countries of Africa, Asia, Europe, Latin America, the Middle East and North America. And a proposal to establish a nutrition institution in the Persian Gulf area is being developed in collaboration with UNICEF.
24. The programme led missions on behalf of the ACC Sub-Committee on Nutrition to assess training needs and possibilities in Africa in Angola, the United Republic of Cameroon, the Ivory Coast, Mozambique, Senegal, and Zaire. These followed earlier missions to Ethiopia, Kenya, the Sudan and the United Republic of Tanzania.
25. The quarterly journal Food and Nutrition Bulletin, published in collaboration with the Sub-Committee, is in its third volume. Two more supplements to the Bulletin, "Food Price Policies and Nutrition in Latin America", and "Nutritional Evaluation of Protein Foods", were published; a third, "Protein-Energy Requirements of Developing Countries: Evaluation of New Data", is in press. Additional ways of disseminating knowledge about the problems of hunger are now being explored.

A. Over-all progress

26. Monitoring and review of the programme work is done continually at the operational level. At the programme level, advisory bodies have maintained similar

review. Several evaluations have been made: an internal evaluation of fellowship training in 1979 and the semi-external evaluation of the whole programme at Bellagio are two examples. Former Fellows from Latin America met in July/August 1980 to discuss ways in which training could be more effective in meeting fellowship objectives in that region.

27. At the policy level, the programme has also been included in over-all evaluations of the University's work - for example, the external evaluations made by the United Kingdom and the Nordic countries in 1979 or the more recent ones by individual scholars (i.e., those by R. Kothari, I. Sachs and C. Pratt).

B. Ad hoc working groups

28. The Ad Hoc Working Group on Hunger and Society met in February 1981. In addition to defining a conceptual base for the subprogramme, it also recommended project priorities for 1981-1982, including advanced education and training.

29. The Ad Hoc Working Group on Hunger and Technology, which met in June 1981, compared the attention now being given to post-harvest food losses by international bilateral and national agencies with that given in 1975 when this subprogramme was launched. It assessed the value of the University's contribution to date and supported previous task force decisions to place major emphasis on advanced education and training and institution building as a means of increasing national self-reliance in this area. It further recommended reorienting the subprogramme to include much more social science input and stress on the efficient use of food from harvest to ultimate human consumption.

30. The Ad Hoc Working Group on Hunger and Health met in April 1981. It recommended new thrusts, unencumbered by previous University programme commitments, on global survival strategies, child survival and welfare, and human performance. Such changes in direction cannot become clearly effective until 1982. The protein-energy project will terminate, as planned, in August 1981, and funds allotted for it will be made available for new activities in the subprogramme. The working group emphasized the importance of advanced education and training.

C. Subprogrammes

1. Hunger and Society

a. Over-all objectives

31. The objectives of this subprogramme are to uncover the relationships between hunger as a poverty syndrome and societies as characterized by their specific economies, technologies, ideologies, and politics, and to initiate or promote the design, implementation and evaluation of policies and actions to eliminate hunger. It is seeking to develop greater understanding of these relationships, make political and other leaders more aware of them, develop methodologies to evaluate the effects on food and nutrition of policies, programmes and projects (particularly as they bear on United Nations recommendations in this area), and evaluate the role of community organizations in alleviating hunger.

32. The subprogramme has identified the following six priority areas for projects: (a) basic causes of hunger; (b) hunger and the economic structure of society; (c) government policies and peasant food production; (d) methodologies for evaluation of food and nutrition effects of development projects; (e) food as a human right; and (f) United Nations resolutions on alleviating hunger.

b. Operational methods

33. Training is aimed at promoting awareness of the multifactorial nature of hunger and malnutrition. It attempts to develop a holistic approach that will enable trainees to understand the principal causative factors of hunger within their own systems. It enhances their capacity to use their disciplinary competence in co-operation with persons of other relevant disciplines to develop appropriate policies and programmes. Research, generally done by competent scientists from developing countries, is focused on priority project areas. Workshops are held to outline more specific research priorities as well as to disseminate knowledge.

c. Evaluation of progress to date

34. The most important recommendations of the Bellagio meeting are being implemented. A conceptual basis of the subprogramme on Hunger and Society has been developed and reviewed, and a number of relevant project areas have been identified. Their implementation will depend on the future organization of the University and availability of funds.

35. The new associated institution at the University of the West Indies will work mainly with this subprogramme, providing training for Fellows from the Caribbean and English-speaking Africa. An interdisciplinary course that will start in September 1981 has been developed, involving four faculties from both natural and social sciences, to focus on the interface between food availability, technology and human nutrition.

36. Fellowship training in this subprogramme gained greater momentum in 1980-1981 and programme regional co-ordinators were made responsible for following up the Fellows' progress after they return to their home institutions. They are potentially important links in the world-wide University network as was made clear in a meeting of former Fellows at Cali, Colombia.

37. In order further to identify priority areas, workshops have been conducted on such topics as methods in nutritional anthropology, food and imperialism and food as a human right.

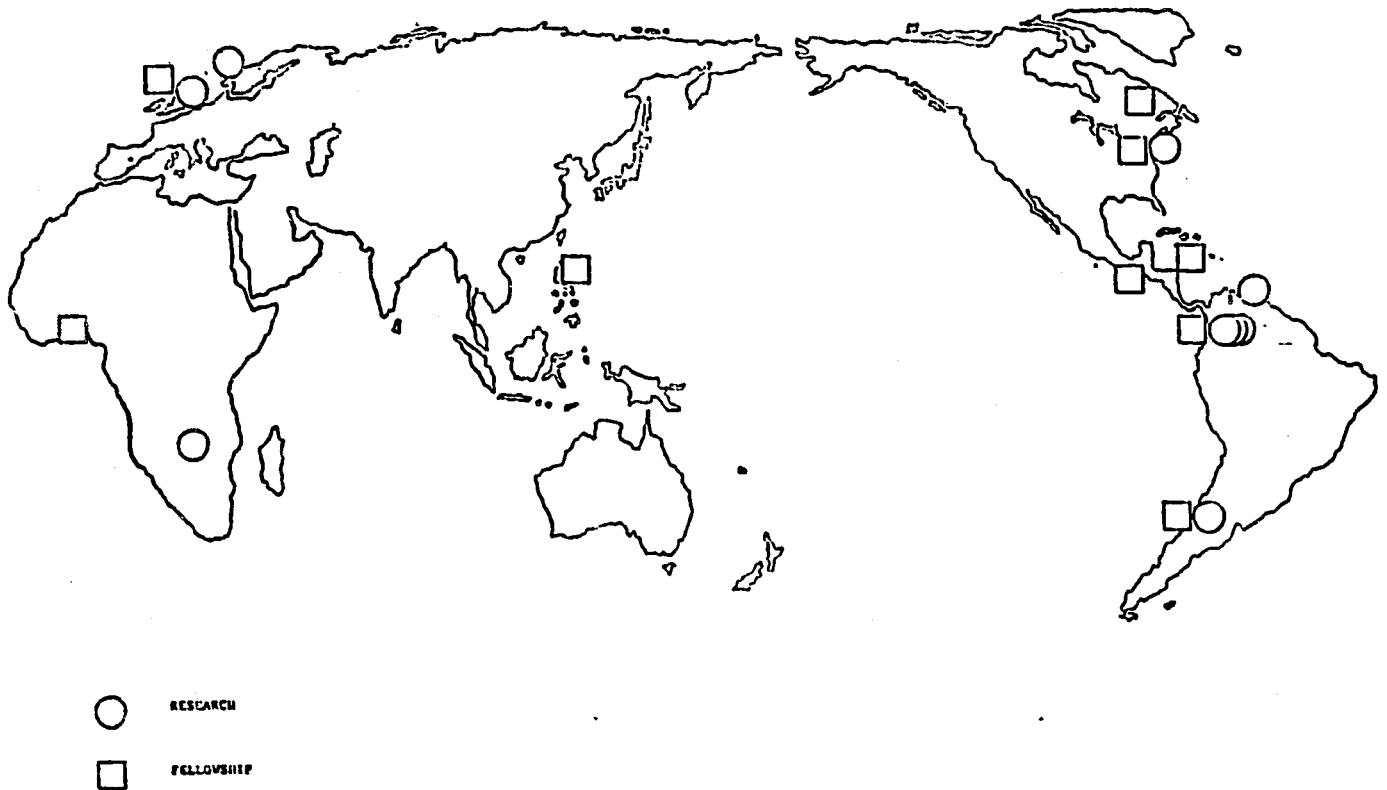
38. The small number of research grants available have been given to projects that fall within the new objectives of Hunger and Society. Of the seven grants awarded, four deal with national strategies and policies concerning food and nutrition; in some cases they are linked with the World Food Council's work on food strategies. Field work is going on in Colombia, Kenya, the United Republic of Tanzania, Trinidad, and Zambia.

d. Fellowships

39. A total of 42 Fellows have now completed training in this subprogramme (as at 15 May 1981); 14 are now in training and 13 are waiting to begin training.

e. Associated institutions and research projects

40. The map below shows the geographical distribution of the research and fellowship activities of the Hunger and Society subprogramme.



2. Hunger and technology

a. Over-all objectives

41. This subprogramme seeks to uncover the actual and potential effects, both positive and negative, of technology on hunger, and to initiate or promote the design, implementation and evaluation of policies and actions for the application of technology to contribute to the elimination of hunger.

42. To achieve these objectives, the subprogramme has focused on:

(a) Development of an understanding of the relationships between technology and the role of women in the production, conservation, and distribution of food;

(b) Identification of suitable technologies that will reduce the losses and improve the handling of post-harvest food (the experience to date was reviewed in June to derive conclusions and recommendations of value to other agencies and institutions, as well as to Governments, and also to determine whether this activity should be expanded, modified or phased out);

(c) Investigation of the application of microbiology to prepare vegetables and animal residues for producing bioenergy and biomass that will contribute to animal and human feeding.

It will undergo some redefinition in the future in line with the new medium-term perspectives and task force recommendations.

b. Operational methods

43. Fellowship training and dissemination of knowledge are the primary vehicles of this subprogramme. Research is conducted mainly as part of fellowship training, although some research projects are also intended to build institutional competence as well. In other projects the role of women in post-harvest food conservation has received attention in a series of case studies (see paras. 76-79 below).

c. Evaluation of progress to date

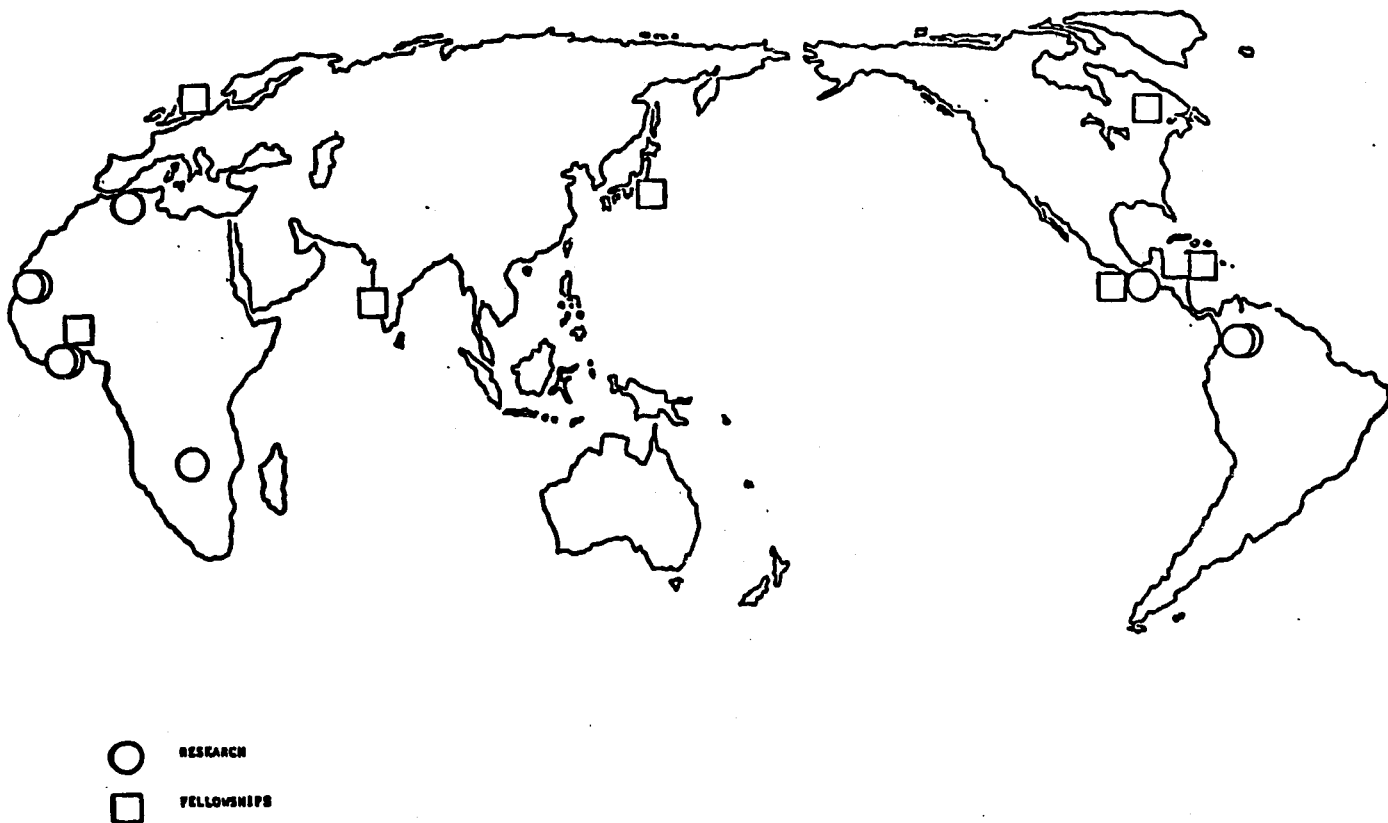
44. The fellowship programme has proved highly effective, and efforts toward dissemination of information have brought widespread attention to post-harvest losses. The fellowship training has contributed to the strengthening of a number of institutions in developing countries. There is a growing awareness in other international, regional and bilateral agencies, in international agricultural institutes, and national institutes of significant post-harvest losses. Much of this has been stimulated by dissemination of information through the Food and Nutrition Bulletin, workshops on interface and other topics, returning Fellows, and knowledge generally of the University's interest in the problem. The University has carried this important issue to the point where it may be sufficiently taken up by other agencies and organizations (this will be determined at a forthcoming working group meeting).

d. Fellowships

45. A total of 36 Fellows have now completed training in this subprogramme (as at 15 May 1981); 19 are now in training and 6 are waiting to begin training.

e. Associated institutions and research projects

46. The map below shows the geographical distribution of the research and fellowship activities of the Hunger and Technology subprogramme.



3. Hunger and Health

a. Over-all objectives

47. This subprogramme seeks to bring to light the relationships between hunger and health within societies, and to initiate or promote the design, implementation and evaluation of policies and actions to eliminate ill health linked to hunger. It is completing a series of workshops, research projects and publications on protein-energy requirements under conditions prevailing in developing countries in preparation for a meeting of a joint FAO-WHO University Expert Committee on protein requirements in October 1981. The subprogramme is further concerned with ascertaining the functional and practical consequences of iron deficiency and anaemia in developing countries.

b. Projects

(i) Protein-energy requirements under conditions prevailing in developing countries

48. In the past year a major effort was made to obtain critical essential information on protein requirements of local populations living under the environmental conditions and consuming the diets prevailing in developing countries.

49. This information will serve as the principal new data base for the meeting of the FAO-WHO University Expert Committee in October to revise current recommendations for protein and energy. New data from research sponsored in Bangladesh, Brazil, Chile, China, Colombia, Guatemala, India, Korea, Mexico, Nigeria, the Philippines, Thailand and Turkey, together with that from collaborating institutions in Japan, the United Kingdom, the United States and the Soviet Union, indicate the need for significant changes in current recommendations.

50. Important new data have also been obtained on the additional protein requirements during episodes of infection and for catch-up after periods of stress; particular attention has been devoted to the catch-up of growth of young children following episodes of diarrhoea and other diseases of infectious origin.

51. The first tabulation and discussion of data from a May 1980 workshop is now in press as a University publication; a second workshop to summarize and analyse additional data that have since become available will be held in August 1981. These data will provide important input for the FAO-WHO University meeting.

52. The publication "Evaluation of Protein Quality" appeared during the year and has gained recognition as a major contributor to improved understanding of protein quality and better methods of measuring it.

(ii) Causes and prevention of iron deficiency in Latin America

53. This regional project, co-ordinated by the Venezuelan Institute of Scientific Research and involving investigators in five other Latin American countries, is designed to determine the availability of iron in various foods and diets of the region, to identify suitable foods for fortification with iron, and to initiate fortification programmes. Research at the Institute of Nutrition of Central America and Panama, Guatemala City, Guatemala, is evaluating the feasibility of fortification of sugar with iron, and the Institute of Nutrition and Food Technology

in Chile is testing the use of readily available heme iron extracted from animal blood at slaughtering and used for fortification of biscuits.

54. The University has sponsored highly successful workshops, organized by appropriate committees of the International Union of Nutritional Sciences, on iron deficiency and cognitive performance and iron deficiency and work output. Their results have been published by the University. At a meeting of the International Consultative Group on Iron that met at Bangkok in October 1980, the surprising lack of information on the effects of subclinical iron deficiency was highlighted. The University is using both workshops and research support to help make available needed knowledge.

c. Operational methods

55. The methodology followed has been to convene a workshop to determine research objectives and protocols, then select the most appropriate institutions and individuals in the developing world to execute these protocols, and to initiate consultant visits and periodic workshops, with participating investigators for quality control.

56. University assistance in statistical pooling and analyses and interpretation of results from the network has a very specific objective of identifying the most pressing gaps in knowledge and filling them in time for the October FAO-WHO University meeting. Several major publications have also made important contributions. And in at least six cases, Fellows' training has produced important original data that will further contribute to the final conclusions and recommendations.

57. The operational method in the iron deficiency network gave responsibility to an outstanding principal investigator and institution. This method almost failed when the person selected was subsequently given other responsibilities (the presidency of the University of Caracas) which precluded his carrying out his original commitment on schedule. In the past year, however, the situation has changed and the project is now moving forward as planned before the delay occurred. The fault appears to lie not in the operational method but in unavoidable circumstances.

d. Evaluation of progress to date

58. The protein-energy research network has been successful in achieving its established course beyond reasonable expectations. All network units will have completed their data by 1 July. The impressive quality and significance of the results have been monitored by an exchange of analytical samples, by a consultant's visit to review the procedures used, and by comparative statistical analyses of the data received.

59. The results will provide a definitive data base for revision of current protein recommendations. The first two monographs of the results are now in press and a third, published in March, on evaluation of protein has been well received. The calibre of the advanced study by Fellows in this project has also been high and they have already begun to contribute significantly to understanding of human nutritional requirements in their own countries on return to their home institutions. This project will terminate in October 1980 having surpassed its original objectives.

60. The progress of the Latin American iron network has been different. The network is supported by small grants to the Venezuelan Institute of Scientific Research and the Institute of Nutrition and Food Technology at the University of Chile. It has advanced slowly while its leader is having a very difficult term as University president. Satisfactory progress is now being made, however, which should lead to demonstration of success in preventing iron deficiency anaemia through fortification of staple foods. These will have global as well as regional significance.

61. Workshops held to summarize current knowledge and research needs of iron deficiency, in relation to cognitive and work performance, are expected to yield significant and useful publications. The same is anticipated for workshops on nutrition and parasitism, nutrition and diarrhoeal diseases, and nutrition and lactation and fertility. The activities in this area provide a successful model for the future, but at the same time they can be terminated to provide resources for new approaches to hunger and health.

e. Fellowships

62. A total of 15 Fellows have now completed training in this subprogramme (as at 15 May 1981); 14 are now in training and 11 are waiting to begin training.

f. Associated institutions and research projects

63. The map below shows the geographical distribution of the research and fellowship activities of the Hunger and Health subprogramme.

4. Specificity of subprogrammes

a. Hunger and society

64. As a response to the recommendations of the Bellagio meeting, a comprehensive proposal on the conceptual base for this subprogramme has been developed. The proposal has been widely circulated and also discussed by an Ad Hoc Working Group that met in Tokyo in February.

65. The proposal contains a holistic and structured approach to the causes of hunger in society. It emphasizes the need to consider the many different types of causes (historical, economic, political, etc.) that exist as well as the different levels of the society at which they may operate (international and from national to household levels). An integration of research, post-graduate training and dissemination of knowledge is envisaged. To that end a minimum training curriculum with a multidisciplinary and pluralistic approach for this subprogramme has been suggested.

66. To the extent possible, the selection of Fellows, research co-operation and workshops have been developed to fit into the new approach. A good response has been obtained from many research groups and scholars who would be prepared to contribute to the subprogramme work.

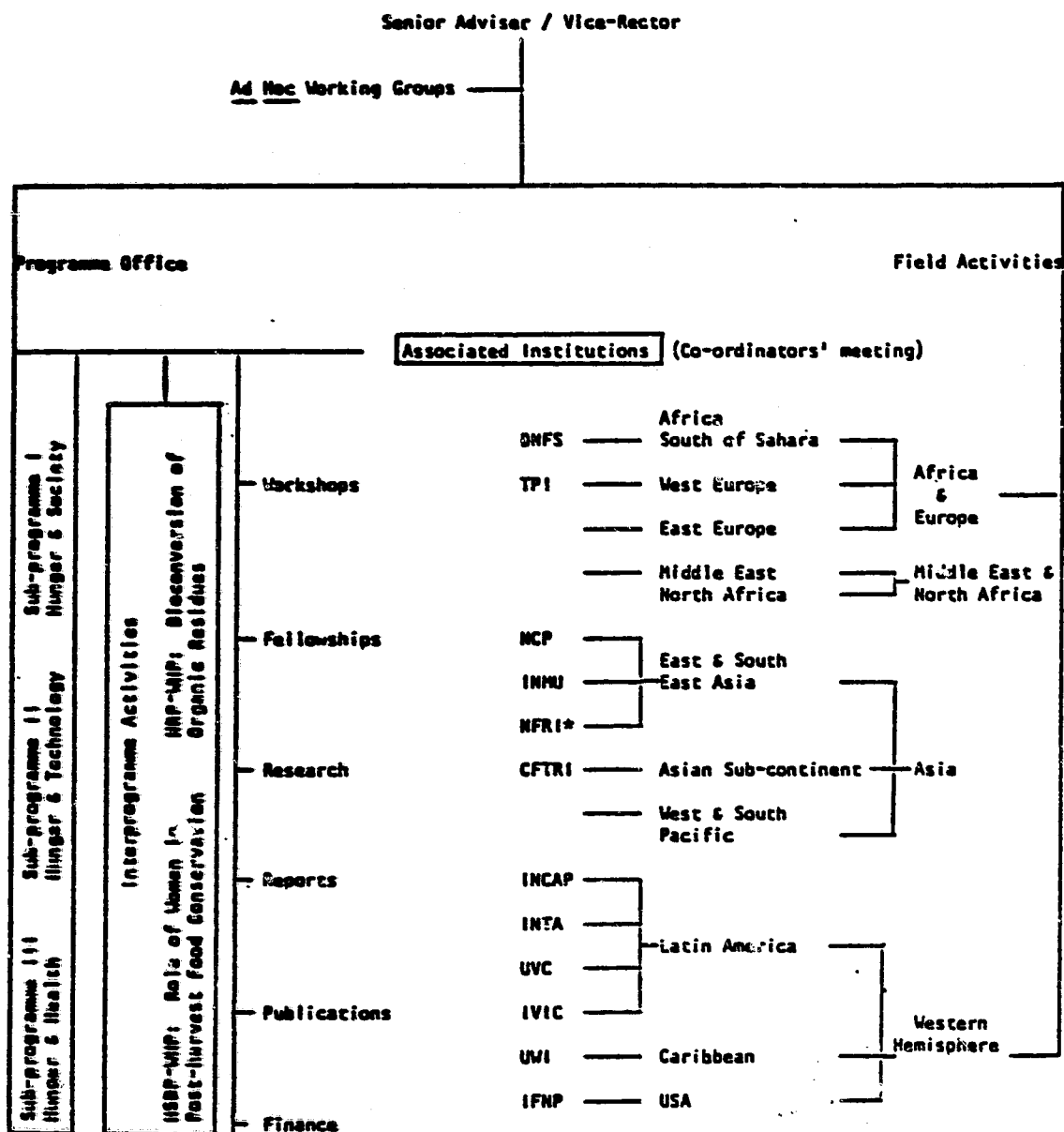
b. Hunger and technology

67. The original objective of this subprogramme, concerned with reducing ~~post-~~ harvest food losses, has aimed at increasing individual and institutional competence in developing countries to enable them to deal effectively with this significant aspect of food shortages and hunger. The FAO programme in this area has provided outside experts and money for programme execution, but not for advanced training. The more FAO, the World Bank and other institutions recognize the importance of post-harvest food losses and provide technical and financial assistance to countries to prevent them, the more they need the kind of personnel being trained by the University to make appropriate use of this help. The role of the University in this regard is thus quite specific.

c. Hunger and health

68. This subprogramme, under its former title "Human Nutritional Requirements Under Conditions Prevailing in Developing Countries and the Capacity of Local Diets to Meet Them", arose from the clear identification by expert groups, including persons experienced in the activities of the World Hunger Programme and FAO, of the urgent practical need for information on protein requirements. The University has made a unique contribution by identifying individuals and institutions in developing countries able to obtain the necessary information and by supporting their efforts in a uniform manner that allows comparison and pooling of data. The support of the University in the field of iron research has been in response to an important regional need.

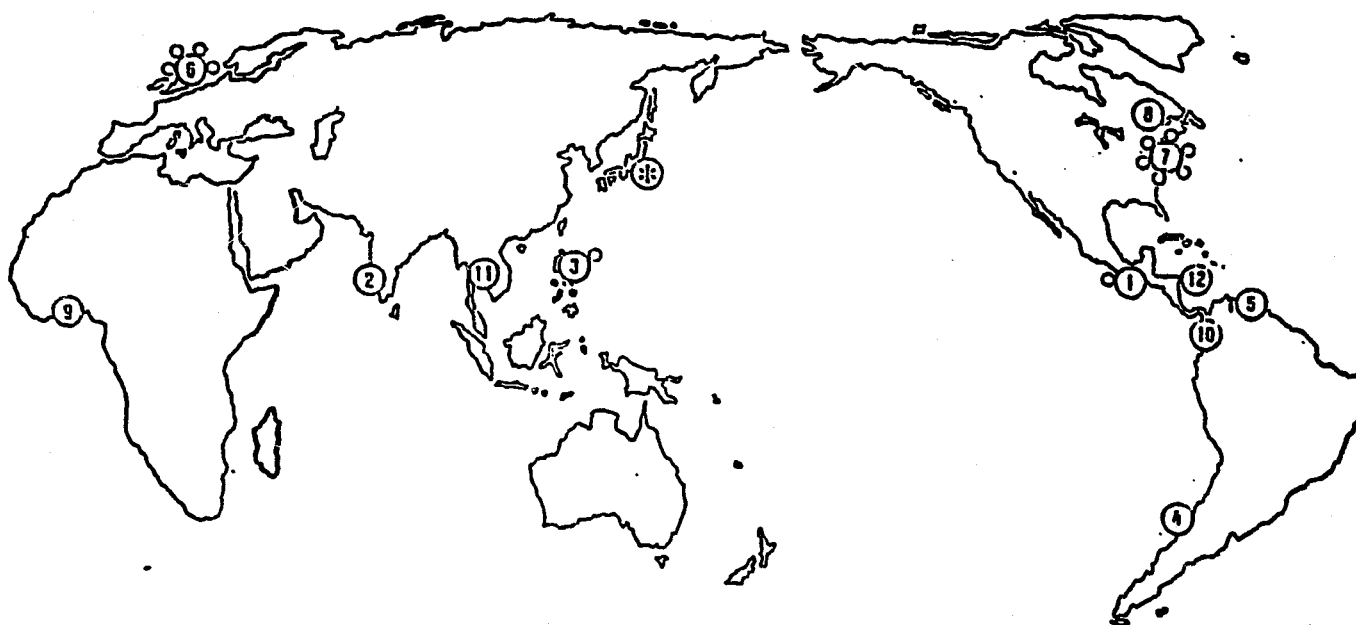
69. The chart^{3/} below shows the operational organization of the World Hunger Programme.



* Training Unit

^{3/} For explanation of acronyms, see the listing of Associated Institutions immediately following.

Associated and co-operating institutions



- ASSOCIATED INSTITUTION (The figures correspond to the numbers on the list below)
⊗ TRAINING UNIT
○ CO-OPERATING INSTITUTION

Associated institutions

1. Institute of Nutrition of Central America and Panama (INCAP), Guatemala City, Guatemala
2. Central Food Technological Research Institute (CFTRI), Mysore, India
3. Nutrition Center of the Philippines (NCP), Makati, Philippines
4. Institute of Nutrition and Food Technology (INTA), University of Chile, Santiago, Chile

5. Venezuelan Institute of Scientific Research (IVIC), Caracas, Venezuela*
6. Tropical Products Institute (TPI), London, United Kingdom of Great Britain and Northern Ireland
7. International Food and Nutrition Policy Program (IFNP), Massachusetts Institute of Technology and the Harvard School of Public Health, Cambridge, Massachusetts, United States of America
8. Centre for Research in Nutrition (CRN), Laval University, Quebec, Canada**
9. Department of Nutrition and Food Science (DNFS), University of Ghana, Legon, Ghana
10. Universidad del Valle (UVC), Cali, Colombia
11. Institute of Nutrition, Mahidol University (INMU), Bangkok, Thailand
12. University of the West Indies (UWI), Jamaica and Trinidad

Training Unit

National Food Research Institute (NFRI), Tsukuba, Japan (provides fellowship training in subprogramme 11)

* Association concluded December 1980, but continues as part of the iron research network.

** Association concluded May 1981.

D. Co-operation with United Nations agencies and other international organizations

1. United Nations agencies

70. The activities of the World Hunger Programme are co-ordinated within the United Nations system through participation in the ACC Sub-Committee on Nutrition and its Advisory Group on Nutrition. The University has taken the lead for the Sub-Committee in organizing visits to 10 African countries to identify institutional needs for training related to food and nutrition and opportunities for improving training facilities in these countries. This has been handled by Dr. Fred T. Sai, World Hunger Programme Interregional Co-ordinator for Africa and Europe and Vice-Chairman of the Advisory Group.

71. Food and Nutrition Bulletin publishes appropriate reports of committees and working groups of the Sub-Committee and the Advisory Group. Most recently the University has accepted responsibility on behalf of the Sub-Committee for organizing a workshop on methodologies for evaluating food and other nutrition interventions. Both the programme's Senior Adviser and the Interregional Co-ordinator for Africa and Europe have participated in the WHO-UNICEF meeting to develop a marketing code for infant formulas, the latter as chairman of the series of meetings.

72. The University has collaborated closely during the past year with FAO and WHO in preparations for the October 1981 Expert Consultation for review and revision of protein-energy requirement estimates. In this and subsequent nutritional requirement meetings the University will share responsibilities. Co-operation with UNESCO for the joint World Hunger and Natural Resources programmes project on Bioconversion of Organic Residues has also continued.

2. Other international organizations

73. The University has promoted international scientific co-operation by using committees of the International Union of Nutritional Sciences (IUNS) to carry out important activities in its subprogramme areas. With full or partial support of the University, working groups have been organized by IUNS committees on Food Standards, Evaluation of Protein Foods, Human Protein Energy Requirements, Economic Policy and Human Nutrition, Nutrition and Fertility, Nutrition and Physical Performance, Nutritional Anthropology, Nutrition and Primary Health Care, Nutrition Education of the Public, Iron Deficiency and Cognitive Performance, Nutrition and Diarrhoeal Disease, Nutrition and Parasitism, Iron Deficiency and Work Performance, and Advanced Training in Nutrition. Several of these are joint activities with the International Union of Science and Technology and one is with the International Union of Anthropology and Ethnology.

74. To revise guidelines for the Sub-Committee for animal and human feeding, the University is assisting a joint working group of the International Union of Microbiologic Societies, the International Union of Pure and Applied Chemistry, and IUNS.

E. Programme interaction

75. The University has two active joint programme projects at the moment - one involving the World Hunger and the Human and Social Development programmes, the second the World Hunger and the Natural Resources programmes.

1. Role of women in post-harvest food conservation (World Hunger - Human and Social Development)

76. On the recommendation of the World Hunger Programme Advisory Committee at its third meeting, in Tokyo, in January 1979, a joint research project with the Human and Social Development Programme was launched on the role of women in post-harvest food conservation.

77. Post-harvest conservation, in the terms of reference of this project, involves the various storage processes for food - from the moment it leaves its original environment to the moment it reaches the consumer. In this sense, the role of women is being considered in the context of the whole food system.

78. Since the bulk of the work in production and conservation of locally-consumed food in rural areas involves traditional technologies, it is necessary to identify these technologies, in particular those involving women. And since traditional technologies are the expression of a given socio-economic structure, it is also important to identify the social organizations in which women participate.

79. Five case studies have already been carried out - in Costa Rica, India, Indonesia, Sri Lanka, and the United Republic of Tanzania. A workshop will be held in Costa Rica in August 1981 to discuss these findings and make recommendations for future research.

2. Bioconversion of organic residues for rural communities (World Hunger - Natural Resources)

80. The aim of this project is the development of the use of non-conventional energy resources in rural household systems and biomass production in villages to increase food, feed, and energy output. It has concentrated on supporting research at the Shri AMM Murugappa Chettiar Research Centre in Madras, India, which is examining the potential of integrated production systems at the village level to provide optimum utilization of land for food and energy.

81. The first joint World Hunger-Natural Resources Fellows/Visiting Scholars began training during the year, and three more will begin in September 1981.

82. Development of this project was slowed during the past year because of difficulties with the institution in Europe selected to co-ordinate the project, the lack of sufficient staff time to devote to it and of sufficient budgetary resources. Although the clear mandate for priority attention to this project emerged from the February 1979 joint programme advisory committee meeting, uncertainties as to the future direction and staffing of the University made it inopportune to press for the development of a major new project requiring substantial resources. It is hoped that the lost momentum can be gained in the coming year.

Workshops and meetings: July 1980-June 1981

- Hunger and Society subprogramme Workshop on Resource Requirements to Meet Protein Needs, Tsukuba, Japan, 4 July 1980
- Hunger and Society subprogramme Workshop on Status of Women, Breast-feeding and Child Care, Accra, Ghana, 25-31 July 1980
- WHO-FAO University Expert Consultation Planning Meeting, Rome, Italy, 2-3 October 1980
- Hunger and Health subprogramme Workshop on Interactions of Parasitic Diseases and Nutrition, Bellagio, Italy, 6-10 October 1980
- Hunger and Society subprogramme Workshop on Methodological Issues in Nutritional Anthropology, Cambridge, Massachusetts, United States of America, 17-20 November 1980
- Hunger and Health subprogramme Workshop on Iron Deficiency and Mental Performance, Houston, Texas, United States of America, 3-7 December 1980
- Hunger and Society subprogramme Workshop on Analysis of Income Policies and their Effect on the Nutritional Status of Poor Populations of Latin America, Santiago, Chile, 14-16 January 1981
- Hunger and Society subprogramme Analysis of Complementarities Between Food Availability and Utilization, Post-harvest Technology, and Human Nutrition in the Commonwealth Caribbean, St. Augustine, Trinidad, 12-15 January 1981
- Hunger and Technology subprogramme Workshop on Post-harvest Technology at the Village, Farm, and Household Levels, New Delhi, India, 27-30 January 1981
- Hunger and Society subprogramme Workshop on Maternal Malnutrition in Relation to Lactation, Breast-feeding, Infant Development, and Birth Spacing, Cambridge, United Kingdom, 9-11 March 1981
- Hunger and Technology subprogramme Workshop on Hardening of Beans, Santo Domingo, Dominican Republic, 23-27 March 1981
- Hunger and Society subprogramme Working Meeting on Advanced Degrees in Nutrition Science, Wageningen, Netherlands, April 1981
- Hunger and Health subprogramme Workshop on Energy Requirements Under Field Conditions, Prague, Czechoslovakia, 6-8 April 1981
- Hunger and Health subprogramme Workshop on Work Capacity, Work Performance, and Iron Deficiency, Cambridge, Massachusetts, United States of America, 28 April-1 May 1981
- Hunger and Health subprogramme Workshop on Interactions of Diarrhoea and Malnutrition: Pathophysiology, Epidemiology, and Interventions, Bellagio, Italy, 11-15 May 1981
- Hunger and Society subprogramme Workshop on Food Imperialism in East and Southern Africa, Naivasha, Kenya, 1-5 June 1981

IV. HUMAN AND SOCIAL DEVELOPMENT PROGRAMME

83. The conceptualization of the Human and Social Development Programme, within the context of the United Nations University as a new and evolving type of university, has been a continuous and recurrent process - from the initial expert meeting in 1975 to the fifth meeting of the Programme Advisory Committee, in 1980.

84. The programme design has been based on the 1975 expert group report which oriented the programme toward a critique of development theory. To this end, the programme has aimed at organizing project networks involving creative researchers both at the theoretical and field levels.

85. Evolving out of the decision by the Council in January 1976 that the Human and Social Development Programme should have two focal points - development indicators and technology for development, two subprogrammes were established, one concerned with problems of development, the other with technology for development.

86. A five-year plan for the programme was formulated beginning in 1977 (see chart 2 following para.150). Due to various administrative problems, however, the development of the initial projects took more time than had been anticipated; the five-year plan originally proposed for 1977-1981 was delayed for one year. It is now scheduled to be completed in 1982.

87. Within this time frame, the programme developed five initial project networks and began research and planning for three other projects which were to be launched in 1979 as a second generation of networks.

A. Subprogrammes

1. Problems of development

88. In this subprogramme there were two initial projects and two research and planning activities, as follows:

(a) Projects

Goals, processes, and indicators of development (20 research units)

Socio-cultural development alternatives in a changing world
(21 research units)

(b) Research and planning activities

Human rights, peace and international law

Education for development

2. Technology for Development

89. In this subprogramme there were three initial projects and one research and planning activity, as follows:

(a) Projects

Sharing of traditional technology (7 research units)

Research and development systems in rural settings (3 research units)

Technology transfer, transformation, and development: the Japanese experience (40 research units)

(b) Research and planning activity

Technology Transfer among Developing Countries (now Regional Perspectives)

90. In addition to the above research and planning activities, another theme, "Life style and urbanization", was suggested. Due to budget constraints, however, its development has been delayed. The research and planning on "Technology transfer among developing countries" has evolved, after several consultations with experts, into an activity emphasizing regional perspectives in the major third world regions, Africa, the Arab world, Asia, and Latin America. This change in emphasis was caused by the increasing realization that the specific conditions of technology transfer were closely related to regional problems of development; it should be therefore studied on a regional basis, emphasizing not only technology, but also the whole economic and socio-cultural setting of each region.

91. The plan to launch a second generation of project networks in 1979 was delayed in view of the fact that the Programme Advisory Committee felt that the Human and Social Development Programme should wait for the new Rector to determine the programme's future orientation; therefore, most of the research and planning activities were frozen awaiting his taking of office in September 1980.

92. In its research and planning activities, the programme emphasized the need to relate the initial project networks, both at the regional and international levels, so that, even if the second generation of networks was not launched on schedule, a more coherent initial set of results would come from the work of the first five years.

93. This has involved a series of regional seminars on the new international economic order, stressed by the Programme Advisory Committee as an overarching theme that could encompass all the activities of the programme. Concurrently, it was also decided to strengthen the research and planning on regional perspectives in the third world - Africa, the Arab world, Asia, and Latin America. The Arab regional perspective got off the ground with the project on the Arab alternative futures.

94. Another important aspect of the over-all programme activities was the new emphasis put on closer collaboration with UNESCO; this was marked by the joint Human and Social Development Programme-UNESCO Meeting of Experts on the Role of the New Theoretical Concepts on the Process of Development held at Ulan Bator, Mongolia, in August 1980.

95. In the first six months of 1980, the Programme Advisory Committee undertook a review of the initial projects (already reported to the Council at its fifteenth

session), and on the basis of this review the five initial projects started to prepare for their second phase of development. With the exception of the Sharing of traditional technology project, which was planned to conclude in 1981 from the beginning, all of the other projects now plan to conclude their activities in 1982.

B. Projects

1. Meetings

96. Four of the five projects held project meetings during the year under review, in which all the research units met with the project co-ordinators and University staff to discuss over-all orientation of the project, compare research results and discuss future activities. The Japanese experience project will hold a project meeting in Tokyo in September 1981.

97. The Goals, processes, and indicators of development project met in Montreal, Canada, in late July/early August 1980. The Sharing of traditional technology project met in Beijing, China, in March 1981. The project on Research and development systems in rural settings met in Campinas, Brazil, in March 1981. The Socio-cultural development alternatives project held one major meeting of its subproject "Transformation of the world" in Madrid in September 1980 and a regional symposium of its subproject on Endogenous intellectual creativity in Kuwait in March 1981.

98. As part of the research and planning activities of the Human rights, peace and international law project, the programme co-sponsored, with the Hague Academy of International Law, a colloquium on the New International Economic Order: Commercial, Technological and Cultural Aspects, in October 1980, in the Hague.

99. The Steering Committee for the Arab alternative futures project, composed of scholars from different parts of the Arab world, met at Tunis, in October 1980 and at Cairo, in March 1981. Three workshops were organized to design this project's research themes: Relationship of class structure and development in the Arab world (Beirut, Lebanon, November 1980); Democracy, participation and mass media (Beirut, Lebanon, December 1980); and The unexplored effects of oil wealth on Arab society (Cairo, Egypt, January 1981).

2. Research reports

100. During the year under review, 80 research reports in the programme's working paper series were published and distributed for comments and reaction. The various research units of the five projects completed and submitted additional research reports, which are now being readied for publication. These include 24 reports from the Goals, processes, and indicators of development project, 27 from the Socio-cultural development alternatives project, 7 from the Sharing of traditional technology project, and 22 from the Japanese experience project.

3. State of play of the projects

101. The following is a brief account of the emphasis of the continuing projects in their second phase of development.

a. Goals, processes, and indicators of development

102. This project has developed a network of 20 research units, each participating in subprojects studying different aspects of the goals, processes and indicators of development.

103. The subprojects related to the goals of development deal with concepts/theories of development, human needs, human rights, alternative ways of life, visions of desirable societies, visions of desirable worlds, and non-territorial actors.

104. Those related to the processes of development focus on the process of expansion/exploitation, autonomy/liberation, militarization/demilitarization, processes in the United Nations system, and alternative strategies and scenarios.

105. Those concerned with indicators of development are studying: indicators, dialogue networks, forms of presentation, tools of goals, processes and indicators of development, energy, economics, and human development terminology dictionary.

(i) Time plan for the project

106. The time plan for the research involving the project, as originally conceived, has six phases:

- (a) Presentation and dialogue, where researchers present and discuss their personal research;
- (b) Subproject meetings, in which areas of joint interest are explored in great detail and depth;
- (c) Integration within research units, particularly for researchers involved in more than one subproject, and emphasis on a wide range of themes within the project;
- (d) Bringing together perspectives from all subprojects of the project with efforts to arrive at deeper, richer insights;
- (e) Integration of individual or group attempts at integration, through comparison, exploration of similarities and differences, and suggestions for further work are made;
- (f) A final integrated intellectual project that will speak to the whole problématique of the project.

107. At the fifth network meeting of the project, in Montreal, the consensus was that the project should move away from individual subprojects to an integrated system with organic relations between the separate focuses on goals, processes and indicators, i.e., to move from the fourth to the fifth phase above. Three working groups were formed, with the main task of finding integrative focal points and translating them into research themes.

108. The first group, using the micro approach, is trying to enter problems of large scale social organization from a starting concern with individual human

development - defined not only in terms of personal characteristics, but also identification with collectivities. The group is concerned with such issues as how actors of different kinds can become aware of their collective interests and capabilities and how different forms of organization permit or hinder such processes.

109. The group identified a number of issues which could constitute topics requiring further elaboration within the project network, and/or which might usefully serve as bridging issues around which the processes of integration could take place. These included the marginalization of women and youth; forms of political representation and popular control; linking and delinking strategies; and questions of consciousness and cultural development.

110. The second group, employing the macro approach, has identified four integrative focal points concerning development, which are in fact categories of questions:

(a) Methodological focus:

How is the problem of development to be tackled? What is the nature of development itself? Here there were two points of dialectical opposition. The first view is that the starting point is a theory of development calling for an analysis of conflicts and their resolution; the emphasis is on processes. The second view gives special attention to indicators and linguistic clarification.

(b) Explanatory focus:

Once the appropriate methodology is identified, what are the key variables that explain the observed process? One view is that explanation is explication, i.e., translating implicit into explicit meanings, or reducing the unfamiliar to the familiar. Another view is that the ultimate indicator of a successful explanation is the predictive power of the explanatory theory. Whichever approach is preferred it remains true that in a general sense explanation is primarily concerned with the interpretation of processes.

(c) Normative focus:

A normative theory of development would make clear what the theory builders believe is a desirable future. This normative focus therefore relates directly to the subprojects concerned with visions of desirable societies and visions of desirable worlds.

(d) Strategic focus:

This last focus answers the question "How do we get from here to there?", it being understood that here is answered by the explanatory focus and there by the normative focus.

111. The third working group emphasizes the processes that might relate the macro and micro aspects. Goals are conceived as an integral part of the processes and strategies as ways of bending processes. The integrative task is coped with

by means of establishing a list of key processes at all levels, organizing them by grouping processes belonging to the same family, identifying dialectical interactions, and exploring casual relations. Various trends and the underlying power configuration must be analysed and scenarios formulated as resultants of processes, goals and strategies.

112. A work plan and time-table have been established for each working group. In addition to the initial Montreal meeting, the first group met a second time in Bariloche, Argentina, in December 1980. The second group also met in Bariloche at the same time and again in Trinidad in January 1981. The third working group also met a second time in Trinidad on the same occasion. From now on continuing emphasis will be put on integration within the framework of the three groups.

(ii) Project Co-ordinator

113. Dr. Johan Galtung resigned as Project Co-ordinator in February 1981. Upon recommendation of the Steering Committee, and after extensive consultation with members of the network, the Vice-Rector for the Human and Social Development Programme appointed Dr. Carlos Mallmann as the new co-ordinator.

b. Socio-cultural development alternatives in a changing world

114. The basic assumption underlying this project is that the human and social development problématique must be repositioned to take into account important civilizational development alternatives that are emerging at a time when broad and rapid change is literally transforming the world.

115. The main thrust is to evolve an international intellectual, cultural and theoretical workshop in which novel and creative conceptions of human and social evolution can be fashioned.

116. Working jointly with seminal centres of scientific, intellectual and cultural activity, the project is seeking to improve understanding of converging sets of formative influences now affecting global society.

117. Part of this effort involves the exploration of the alternative development potentials that are deeply rooted in different civilizations and cultures in an attempt to understand better the theoretical, philosophical, ideological and methodological approaches they embody. Particular attention is being devoted to identifying and mobilizing emerging representatives of the major alternative schools of thought and action in different geo-cultural areas of the world.

118. The project also seeks to ascertain the relationships between development practices, which are often conflicting, and the elaboration of new concepts and theories. This aspect of the project's work addresses itself particularly to practitioners of human and social evolution.

119. The project has two subprojects: (a) Endogenous intellectual creativity; and (b) Transformation of the world. The first held a regional symposium for the Arab world in Kuwait in March 1981 (two earlier symposia had been held in Kyoto, for Asia, in November 1978 and Mexico City, for Latin America, in April 1979). The second organized an international seminar in Madrid in September 1980 on

"Economy and Society in the Transformation of the World" (the first such international seminar on "Science and Technology in the Transformation of the World" took place in Belgrade in October 1979).

120. A series of meetings have now been organized to explore the areas of convergence between the two subprojects. The first meeting was held in Mexico on the subject, "Culture and Power in a Changing World". A second, on "Specificity and Universality", is planned to be held in Tokyo in November 1981.

121. Through various meetings in all parts of the world, the project has been able to mobilize, in a more or less continuous manner, more than 350 active scholars, intellectuals and policy-makers from Africa, Asia, Europe, and North and South America. A project meeting is scheduled in the near future to help shape the completion stages of the work and consider possible follow-up activities.

c. Sharing of traditional technology

122. At the third project network meeting in Yogyakarta in April 1979, the participants agreed upon an operational strategy that assumes an advance from traditional technologies to appropriate technologies requires the following steps:

- (a) Study of traditional technologies in their social setting, with a view to understanding the functions they were expected to fulfil and the constraints within which they had to operate;
- (b) Assessment to define precisely the limitations and drawbacks of traditional technologies from the standpoint of present day needs and conditions;
- (c) Transformation of technology, which implies the analysis of the scientific context of traditional technologies in the language and idiom of modern science and engineering. This scientific insight can then be used to generate qualitative improvements with minimum change and alterations.

123. Within this over-all operational strategy, certain divisions of labour has been established within the network.

124. The Penang unit in Malaysia focuses its research mainly on the study of traditional technologies in their social settings, with special attention on the problems of dialectical interaction between traditional and modern technologies - steps one and two above. Two research papers have been published on this unit's work: "A Comparison of the Traditional Malay House and the Modern Housing Estate House" and "Traditional Technology, a Neglected Component of Appropriate Technology".

125. The Dian Desa Institute in Yogyakarta, Indonesia, is more concerned with the transformation of traditional technologies, especially in the field of energy and water supply. A summary of its work to date is contained in the research paper "Traditional Technology: Obstacles or Resources? Bamboo-cement Rain-water Collector and Cooking Stove".

126. The Thai Khadi Research Institute in Thammasat University, Thailand, has a completely different approach to the problem. Researchers there are trying to elaborate a model of technology for rural Thailand. The objective of this model is two-fold. On the one hand, it should enable better understanding of technology, particularly its general nature and interaction with society. This understanding is, in turn, the basis for understanding technological processes, such as information acquisition, analysis and assessment, adaptation, diffusion and promotion. On the other hand, the model should provide teachable knowledge that can be incorporated into basic education, particularly that for the rural population. Work to date is reflected in the research report "Structure of Technology: A Model for Rural Development".

127. The Marga Institute, Sri Lanka, and the Development Research and Communication Group, Nepal, are combining the socio-economic and technical approaches, i.e., assessment and transformation of traditional technologies, especially with regard to food processing and traditional medicine. Research reports on their work are "Some Traditional Sri Lankan Medical Techniques Related to Acupuncture", "The Role of Traditional Water Management in Modern Paddy Cultivation in Sri Lanka" and "Construction of Trail Suspended Bridges in Nepal: An Application of Traditional Technology".

128. The Japanese unit, at the Research Institute for Oriental Culture, Gakushuin University, Tokyo, is carrying out historical research on traditional Japanese rural technology, with particular regard to fertilization technology. This historical research is part of an effort to understand and come to grips with various problems besetting modern agricultural production and village life. The unit has published the research report "The Fertilization Technology Described in Historical Japanese Farm Manuals and That Utilized by Modern Farm Households".

129. In November 1980 the network was strengthened by the inclusion of a unit from the People's Republic of China, the China Association for Science and Technology in Beijing, which will carry out research on traditional Chinese veterinary acupuncture.

130. At the annual network meeting in Beijing in March 1981 it was decided that the final report of the project, which will be concluded in 1981, should be prepared by October 1981. The report, which is intended to be of both theoretical and descriptive nature, will include contributions from each network unit.

d. Research and development systems in rural settings

131. Technologies are at present generated within the framework of systems originating in the developed world which is not adequate for the developing countries. This project emphasizes a research methodology that, while generating technologies appropriate to rural areas, also contributes to the building of new systems adequate for the needs and conditions of developing societies. The final aim of the methodology, which presupposes local participation, is to define a "technological space" - or set of requirements and constraints that the technology has to satisfy. Any technology which fits that space is appropriate, whether locally produced or imported.

132. It is assumed that the methodology currently used in most of the world is based on particular links which the research and development systems of developed countries have with their societies, and which evolved in a long process beginning with the Industrial Revolution.

133. In developing countries, the connexion between the systems and the societies is very weak, particularly in relation to the traditional rural sector. Consequently, the methodology of technological research generated in developed countries is inadequate for them.

134. After a socio-economic study by all three research units in the project - in Ethiopia, Mexico and the Philippines - they have now entered the second phase of research. The status of research in each of the units is as follows:

(a) Ethiopian Science and Technology Commission: The Ethiopian team has completed the base line survey of the project. The technological components of the problem situation and their respective traditional solutions have been identified by the peasants and evaluated in joint discussion between peasants and scientists. As a result, some of the problems identified have been incorporated in the research programme of the National Institute of Agricultural Research. A main factor in the success of the Ethiopian team is the active and willing participation of the peasants due to the social changes produced by the revolution. The peasants are now taking the initiative, and are starting to bring new problems to the attention of the scientists. This is a result of the interaction between the scientists and the peasants. The latter, in their new awareness of the possibilities of science, are now beginning to see problems with possible solutions, situations that were previously regarded as natural and unavoidable parts of their lives. This is one of the main results expected from the project, but mainly at a later stage as a follow-up of the actual development of technological solution.

(b) Institute for Studies of Rural Development, "Maya A.C.", Mexico: The main emphasis of the research has been to make an appraisal of the national policies that are currently applied to promote the modernization of rural Mexico, with special attention to their technological component and the analysis of the impact of such policies at the rural community level. As a result of the first phase of field studies in different rural communities, it is possible to state that what is involved is a set of contradictions arising in the context of the historical process of consolidation of capitalism in the rural areas. In rural Mexico there are still forms of production which were typical in the precapitalist stages of society. The advancement of "capital" preserves "traditional" forms, or changes them, according to its own ultimate objective: capital accumulation.

(c) Economic Development Foundation, Philippines: Having completed the base line survey and identified specific technological problems in the first half of the year under review, the research team's next major activity was the formulation of feasible solutions to the problems identified. With villagers participating in the deliberative discussions over identified technologies, the experimental production of deep water rice varieties and the mono and poly-culture of Nile tilapia were started. Other technological problems requiring more detailed analysis were taken up after the first two efforts were well under way. Much of the problem-solving activity was done at the Barangay level.

In the latter part of the year, however, a workshop was held to organize formally the co-operating farmers and thus provide a forum for further discussions of community problems. Special emphasis was placed on technological constraints in farming. Following extensive discussion of alternative solutions, the group agreed to implement those deemed most feasible. However, the individual participating farmer retained the flexibility to modify the agreed-upon technological solution if conditions in his own environment so demanded.

(e) Technology transfer, transformation, and development: the Japanese experience

135. One serious bias which exists concerning technology transfer is the assumption that the technology of developed countries is always superior and the endogenous technology of developing countries is inferior and inefficient. This belief totally ignores the cultural aspects of technology. Moreover, it should be noted that any study of transferred foreign technology which lacks a proper understanding and assessment of endogenous technology - in terms of its level of efficiency, system of dissemination, social characteristics, and so on - would inevitably produce biased results.

136. The Japanese experience project studies the interrelationships between endogenous and foreign technology in the following combinations:

- (a) Imported modern technology replaced traditional or endogenous technology (for example, iron, steel, railway transport);
- (b) Imported technology failed to replace traditional technology (i.e., tractor farming);
- (c) Imported technology co-existed with traditional technology (i.e., the mining industry);
- (d) Imported technology was integrated with traditional technology (i.e., irrigation).

137. The studies in the first phase of this project have now been completed. Their focus was primarily on the hard aspects of the technologies transferred. During the year under review, the project shifted its focus to the soft aspects - socio-cultural, educational, managerial, welfare, ecological - of both technologies transferred into Japan as well as those transferred from Japan to other non-Western countries. The project also sought to consider problems which had been raised during a review exercise - for example, the role of the State.

138. In order to give more international dimension to this so-far nationally-based project, a project meeting in Tokyo in April involved the participation of international specialists in Japanese studies and development research. Sixteen research papers were presented and discussed during the four-day conference.

139. The project thus far, for financial reasons, has limited its activities to research in Japan. It is now planning a comparative study between the Japanese experience and the experiences of two third world countries - Brazil

and Malaysia. This is to determine the validity of the Japanese experience project and to get better insight for further comparative research on experiences of non-Western countries in technology transfer and transformation.

140. During the year under review, 22 research reports were published, 16 in Japanese and 6 in English.

4. State of play of the new generation of research activities

141. The programme is preparing for the conclusion of the five initial projects through a series of research activities aimed at relating these projects within various integrative frames of reference.

142. One such frame is the global problématique of the new international economic order. A series of regional meetings is being organized to mobilize intellectual leaders and seminal thinkers from different world regions in order to discuss fundamental problems which have been the concern of the United Nations since the sixth special session of the General Assembly, in 1971.

143. A colloquium on the African Perspective on the New International Economic Order was held in Addis Ababa in May 1981 where African intellectuals related their own experience in the problems facing that continent to the issues involved in the call for a new international economic order. Sixty African scholars attended this meeting, which was co-sponsored by Addis Ababa University with the active support of the Economic Commission for Africa, OAU, the Council for Development of Economic and Social Research in Africa, the African Association of Universities, and African Institute for Economic Development and Planning (IDEP). The major trends in Africa related to the new international economic order and the African concept of the new international economic order were the main themes of the conference.

144. Another integrative frame is that of regional perspectives within the third world. The Arab alternative futures project has advanced the furthest. It seeks to identify the main trends affecting Arab development today and explore their likely behaviour in the future, taking into account the over-all transformation in the world order that is occurring. Designed as an interdisciplinary project, the research will focus with equal emphasis on analysis of structures and processes; it will take into account not only the socio-economic but also the cultural dynamics within the Arab world.

145. The weak spots in the present knowledge of the Arab world are emphasized. One research area, for example, deals with the unexplored effects of oil wealth - such as Arab labour movements across borders and their impact on both labour-exporting and importing countries, contradictions between rich and poor countries, emergence of richer societies and associated patterns of consumption, value changes, and societal organizations. Eleven other research areas have been identified - ranging from socio-political structures, democracy and decision-making to mechanisms of dependency, human resources, and the use of science and technology.

146. The African regional perspective project is still in the planning stages. A launching seminar was held in Dakar, Senegal, in December 1980 to design research themes. The meeting, attended by 13 researchers from different African

countries, was devoted to the topic "Future Perspectives of African Agriculture". It is understood that this project will be developed in close co-operation with the UNITAR project on the Future of Africa.

147. Similar research activities are planned for Latin America where there will be a series of regional seminars, jointly sponsored with leading Latin American universities and with full participation of regional academic institutions (Latin American Faculty of Social Science and Latin American Social Science Council) and the Economic Commission for Latin America (ECLA). The first regional seminar, jointly sponsored by Universidad Nacional Autonoma de Mexico, on the topic "Democracy, Non-Intervention and Self-Determination in Latin America" is scheduled for January 1982 in Mexico City. Thirty-five Latin American scholars have already agreed to participate.

148. In other fields, consultations are taking place on various sets of problems which the Human and Social Development Programme might study as part of the new orientation of the University. Some are related to the peace dimension of the research on human rights, peace and international law. Others concern research activities on the role of women, within the context of the United Nations Decade for Women.

C. Programme interaction

149. The Human and Social Development Programme has a joint project with the World Hunger Programme on the role of women in post-harvest food conservation. Details of this project are discussed in the World Hunger Programme section (see paras. 75-79).

D. Conclusion

150. In conclusion, the present state of play of the Human and Social Development Programme can be summarized by three points:

(a) All of the present research projects will be concluded by the end of 1982 (and the Sharing of traditional technology project in 1981). New activities will be finally formulated after determination of the new orientation of the University;

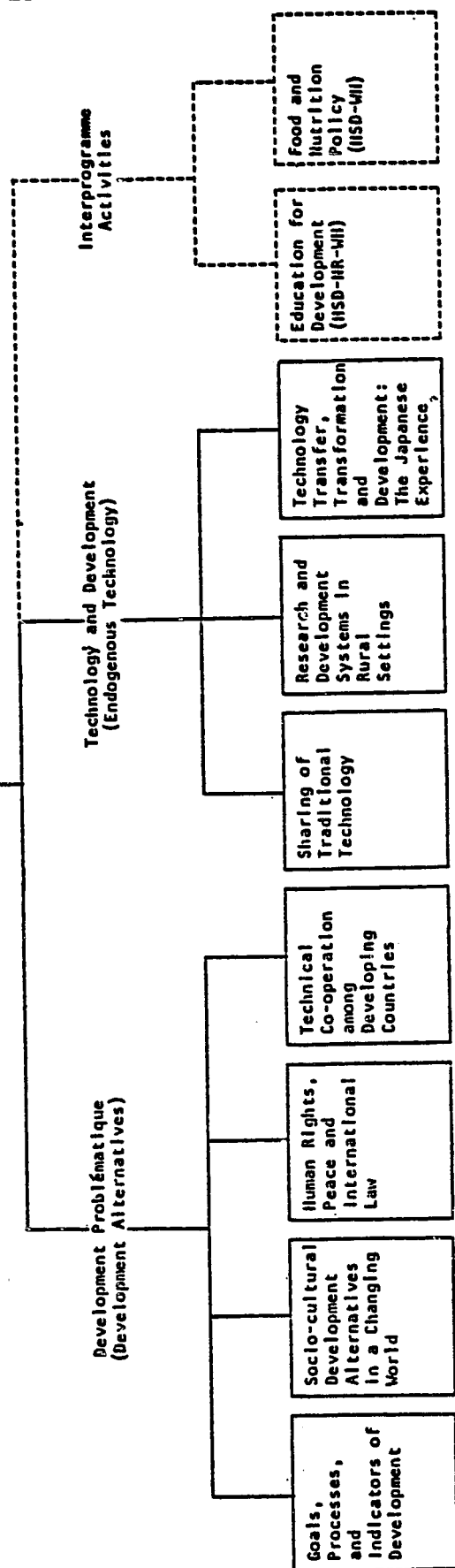
(b) Many valuable research approaches and linkages with research institutions have been developed and established. The projects in their final stages, and the research and planning activities, are geared to take stock of these valuable assets already acquired and to integrate them in preparation for the next stage of the University;

(c) The programme has reached the point where interaction with the other two programmes allows for the setting up of new projects and new activities jointly planned and executed by all three programmes. However, the further development of the problem area of human and social development will be undertaken within the medium-term perspective of the University as proposed by the Rector and approved by the Council.

UJHAI AND SOCIAL DEVELOPMENT PROGRAMME

Conceptual Chart

New International Economic Order (Global Socio-economic and Political Structures)



H.B. Apart from developing conceptual frameworks the programme is also evolving new methodological tools.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Planning and evaluation	Planning of programme	Planning of network activities	Review of programme planning	To continue	Evaluation of first five years and new five-year plan
Information system	Basic information collection	Building Infrastructure (headquarters)	Building network Information exchange	Build International Information servicing	To continue
Publication and distribution	----	Newsletter, research reports	-----	Publication and distribution of books	To continue
Co-ordination	----	Build International co-operation	Co-ordinate network and International co-operation activities	Co-ordinate research results	To continue
UN Research Units	----	Develop consultative mechanism	Research contribution	To continue	To continue
Target events	----	UNDP Conference on Technical Co-operation among Third World Countries	UN Conference on Science and Technology	-----	United Nations Review of the New International Economic Order
International academic associations	----	Relate to: ISSC, CLACSO, CODESRIA, ADIPA, EADI	Joint activities (e.g., future models, thesis on HSD)	To continue	To continue
Other associations	----	-----	Relate to other associations	Joint activities	To continue
Networks	First generation: Four networks - Planning	Establishment of networks	First report and first evaluation Second generation network planning	Second report Establishment of second generation networks	Publications, Other follow-ups, Final evaluation First report on second generation networks

Associated institutions

- El Colegio de Mexico, Mexico City, Mexico
- Institute of Developing Economies, Tokyo, Japan
- Institute of Development Studies, Geneva, Switzerland
- Marga Institute, Colombo, Sri Lanka
- The Latin American Faculty of Social Sciences, San Jose, Costa Rica

Research and training units

Project on goals, processes and indicators of development

- Bariloche Foundation, San Carlos de Bariloche, Argentina (co-ordinating institution)
- Centre for Policy Research, University of Science Malaysia, Penang, Malaysia
- Centre for the Study of Developing Societies, New Delhi, India
- Committee "Poland Year 2000", Polish Academy of Science, Warsaw, Poland
- Council for the Development of Economic and Social Research in Africa, Dakar, Senegal
- Division of Systems Studies, University of Bucharest, Bucharest, Romania
- El Colegio de Mexico, Mexico City, Mexico
- GAMMA, University of Montreal, Montreal, Canada
- Institute of Development Studies, Geneva, Switzerland
- Institute of International Relations, University of the West Indies, St. Augustine, Trinidad
- Institute for Peace Science, Hiroshima University, Hiroshima, Japan
- Marga Institute, Colombo, Sri Lanka
- Max Planck Institute, Starnberg, Federal Republic of Germany
- Mershon Center, Ohio State University, Columbus, Ohio, United States of America
- Peace Research Institute, Sweden, Göteborg, Sweden
- Science Policy Research Unit, University of Sussex, Brighton, United Kingdom
- Union of International Associations, Brussels, Belgium
- United Nations Institute for Training and Research, Geneva, Switzerland
- University of Oslo, Chair in Conflict and Peace Research, Oslo, Norway
- World Federation Studies Federation, Rome, Italy

Project on socio-cultural development alternatives in a changing world

- National Centre of Scientific Research, Paris, France (co-ordinating institution)
- Algerian Association for Demographic, Economic and Social Research, Algiers, Algeria
- Caribbean Development and Co-operation Committee, ECLA Office for the Caribbean, Port of Spain, Trinidad and Tobago
- Centre for Arab Unity Studies, Beirut, Lebanon
- Centre of Development Studies, University of Venezuela, Caracas, Venezuela
- Centre for East Asian Studies, McGill University, Montreal, Canada
- Centre for Economic and Social Research and Studies, University of Tunis, Tunisia
- Centre of Higher Research, National Institute of Anthropology and History, Mexico City, Mexico

- Centre for Political Studies, School of Social Sciences, Jawaharlal Nehru University, New Delhi, India
- Centre for Studies in Social Sciences, Calcutta, India
- Centre for the Study of the Practices and Representations of Socio-Economic Changes, University of Grenoble, Grenoble, France
- Department of Bengali, University of Chittagong, Chittagong, Bangladesh
- Department of Political and Social Sciences, Complutensian University of Madrid, Madrid, Spain
- Department of Sociology, University of Ibadan, Ibadan, Nigeria
- East Asian History of Science Library, Cambridge University, Cambridge, United Kingdom
- Fernand Braudel Center for the Study of Economies, Historical Systems and Civilizations, State University of New York at Binghamton, Binghamton, New York, United States of America
- Institute for the History of Arabic Science, University of Aleppo, Aleppo, Syria
- Institute of International Relations for Advanced Studies on Peace and Development in Asia, Sophia University, Tokyo, Japan
- Institute of National Planning, Cairo, Egypt
- Institute of Pacific Studies, University of the South Pacific, Suva, Fiji
- Thai Khadi Research Institute, Thammasat University, Bangkok, Thailand
- University of Belgrade, Belgrade, Yugoslavia

Project on sharing of traditional technology

- Marga Institute, Colombo, Sri Lanka (co-ordinating institution)
- China Association for Science and Technology, Beijing, People's Republic of China
- Consumers Association of Penang, Penang, Malaysia
- Development Research and Communication Group, Kathmandu, Nepal
- Institute Dian Desa, Yogyakarta, Indonesia
- Research Institute for Oriental Culture, Gakushuin University, Tokyo, Japan
- Thai Khadi Research Institute, Thammasat University, Bangkok, Thailand

Project on research and development systems in rural settings

- State University of Campinas, Campinas, São Paulo Brazil (co-ordinating institution)
- Economic Development Foundation, Rizal, Philippines
- Ethiopian Science and Technology Commission, Addis Ababa, Ethiopia
- Institute for Studies of Rural Development "Maya A.C.", Mexico City, Mexico

Project on technology transfer, transformation, and development: The Japanese experience

- Institute of Developing Economies, Tokyo, Japan (co-ordinating institution)
- Bunka College of Fashion, Tokyo
- College of Education, Oita University, Oita
- College of General Education, University of Tokyo, Tokyo
- College of Social Work and Sociology, Meiji Gakuin University, Tokyo

- Department of Agriculture, Saga University, Saga
- Department of Agriculture, University of Tokyo, Tokyo
- Department of Education, Akita University, Akita
- Department of Engineering, University of Tokyo, Tokyo
- Department of Farm Management and Land Utilization, National Institute of Agricultural Sciences, Ibaragi
- Department of Humanities, Tsukuba University, Ibaragi
- Department of Law and Economics, Aichi University, Aichi
- Faculty of Arts, Rikkyo University, Tokyo
- Faculty of Commerce, Doshisha University, Kyoto
- Faculty of Commerce and Economics, Chiba University of Commerce, Chiba
- Faculty of Commerce and Economics, Senshu University, Tokyo
- Faculty of Economics, Dokkyo University, Saitama
- Faculty of Economics, Keio University, Tokyo
- Faculty of Economics, Kokugakuin University, Tokyo
- Faculty of Economics, Komazawa University, Tokyo
- Faculty of Economics, Tohoku University, Miyagi
- Faculty of Law, Doshisha University, Kyoto
- Faculty of Law, Senshu University, Tokyo
- Faculty of Political Science and Economics, Hiroshima University, Hiroshima
- Faculty of Social Sciences and Humanities, Tokyo Metropolitan University, Tokyo
- Faculty of Sociology, Meiji Gakuin University, Tokyo
- Faculty of Sociology, St. Andrew's University, Osaka
- Faculty of Sociology, Toyo University, Tokyo
- Hyogo University of Education, Hyogo
- Institute of Economic and Industrial History, Tokyo
- Institute of Economic Research, Hitotsubashi University, Tokyo
- Institute of Humanities, Doshisha University, Kyoto
- Institute of Social Science, University of Tokyo, Tokyo
- Institute of Vocational Training, Employment Promotion Project Corporation, Kanagawa
- Junior College of Commerce, Niigata University, Niigata
- Kyoto Gakuen University, Kyoto
- National Research Institute of Agriculture, Ministry of Agriculture, Forestry and Fishery, Tokyo
- Research Planning Department, Institute of Developing Economies, Tokyo
- School of Political Science and Economics, Waseda University, Tokyo
- Toita Women's Junior College, Tokyo
- Tokyo University of Foreign Studies, Tokyo

Workshops and meetings: July 1980-June 1981

Goals, Processes, and Indicators of Development (GPID) Network Meeting V, Montreal, Canada, 27 July-5 August 1980

GPID subproject Meeting on Militarization/Demilitarization, Oslo, Norway, 25-29 August 1980

United Nations University-UNESCO Meeting of Experts on The Role of New Theoretical Conceptions on the Process of Development, Ulan Bator, Mongolia, 19-23 August 1980

Socio-cultural Alternatives in a Changing World (SCA) International Seminar on Economy and Society in the Transformation of the World, Madrid, Spain, 15-19 September 1980

GPID subproject Meeting on Forms of Presentation, Oslo, Norway, 28-29 September 1980

GPID subproject Meeting on Indicators, Oslo, Norway, 17-19 October 1980

International Colloquium on Legal Aspects of the International Economic Order (jointly organized with the Hague Academy of International Law), The Hague, The Netherlands, 23-25 October 1980

GPID Meeting of Working Group C, Princeton, New Jersey, United States of America, 7-8 November 1980

Arab Alternative Futures Workshop on Relationship of Class Structure and Development in the Arab World, Beirut, Lebanon, 18-19 November 1980

SCA Workshop on Types of Modernity and Their Specific Spaces: Modernity and Social Environment in Scandinavia, Grenoble, France, 21-22 November 1980

United Nations University-Institute for Peace Science Hiroshima University Seminar on Peace and Development, Hiroshima, Japan, 8-9 December 1980

GPID subproject Meeting on Human Development, Bariloche, Argentina, 11-13 December 1980

GPID subproject Meeting on Integrative Workshop, Bariloche, Argentina, 15-20 December 1980

SCA Workshop on Creativity and the Integration of Traditions and Modern Attitudes, With Special Reference to Bangladesh and the Indian Sub-continent, Chittagong, Bangladesh, 18-19 December 1980

SCA Seminar on Arab Nationalism and Islam (organized jointly with the Centre for Arab Unity Studies, Beirut), Beirut, Lebanon, 20-23 December 1980

Arab Alternative Futures Workshop on Democracy, Participation and Mass Media, Beirut, Lebanon, 27-28 December 1980

GPID subproject Meetings on Expansion/Exploitation and Autonomy/Liberation Processes, Trinidad, West Indies, 16-19 January 1981

GPID Meeting of Working Group B, Trinidad, West Indies, 16-19 January 1981

Arab Alternative Futures Workshop on The Unexplored Effects of Oil Wealth on Arab Society, Cairo, Egypt, 28-29 January 1981

SCA Workshop on Technical Interpretations of the Rise of Capitalism in Europe and the Nature of Traditional Chinese Society, Cambridge, United Kingdom, 2-3 February 1981

Human and Social Development Programme Meeting, Tokyo, Japan, 16-18 February 1981

Arab Alternative Futures Steering Committee Meeting, Cairo, Egypt, 2-3 March 1981

SCA Regional Symposium on Arab Endogenous Intellectual Creativity (co-sponsored by the Kuwait University), Kuwait, 8-12 March 1981

GPID subproject Meeting on Human Rights, Geneva, Switzerland, 15-16 March 1981

GPID subproject Meeting on Processes in the United Nations System, Geneva, Switzerland, 15-16 March 1981

SCA Workshop on Endogenous Intellectual Creativity in the Role of Science and Technology, Integrated in the Scenario of a Self-sufficient and Self-reliant Arab Future, Cairo, Egypt, 16-17 March 1981

Sharing of Traditional Technology Network Meeting 111, Beijing, People's Republic of China, 23-27 March 1981

GPID subproject Meeting on Forms of Presentation, Oxford, United Kingdom, 30 March-1 April 1981

Research and Development Systems in Rural Settings Project Meeting, Campinas, Brazil, 30 March-3 April 1981

SCA Convergence Area Symposium on Culture and Power in a Changing World - Latin America (co-sponsored by the Centre for Economic and Social Studies of the Third World and The International Schools Association), Mexico City, Mexico, 6-8 April 1981

Human and Social Development Programme Meeting on Goals, Processes, and Indicators of Development Project, Tokyo, Japan, 15-17 April 1981

Technology Transfer, Transformation, and Development: The Japanese Experience Japanologists' Conference on Technology Transfer, Transformation and Development, Kyoto and Tokyo, Japan, 17-23 April 1981

GPID subproject Meeting on Visions of Desirable Societies, Mexico City, Mexico, 22-25 April 1981

Symposium on the African Perspective on the New International Economic Order (co-sponsored by Addis Ababa University), Addis Ababa, Ethiopia, 5-9 May 1981

GPID Meeting of Energy Study Group, Crottorf, Federal Republic of Germany, 8-10 May 1981

GPID subproject Meeting on Militarization/Demilitarization, Oslo, Norway, 25-27 May 1981

GPID Workshop on Tools of GPID, Bucharest, Romania, 17-20 June 1981

GPID Meeting of Economics Study Group, Geneva, Switzerland, 25-26 June 1981

GPID Integrative Workshop, Alfaz del Pi, Spain, 29 June-11 July 1981

V. PROGRAMME ON THE USE AND MANAGEMENT OF NATURAL RESOURCES

151. The justification for the establishment of the Programme on the Use and Management of Natural Resources is that there is a global crisis in resource use and that humanity would be better served if special attention were paid to this problem. The programme is therefore committed to the promotion of provident and ecologically sound principles in the use and management of renewable natural resources through (a) the generation of new knowledge and techniques related to resource use and (b) the dissemination and application of existing knowledge to selected critical problems of resource use, especially in developing countries.

152. The fourth year of operation of the programme marked the end of expansion and the beginning of the consolidation period. One new associated institution was added, bringing the total to 11 (see list following para. 184). The fellowship programme was stepped up, with 44 Fellows identified and waiting to begin training in addition to the 37 Fellows already in training.

153. There is a constant search for new ways to make the programme more sensitive to problem areas in the use and management of natural resources and to bring theory and practice closer together. To this end it has been proposed, subject to further development with the medium-term perspective as proposed by the Rector and approved by the Council, to regroup the main thrusts of the work of the programme into four major subprogramme areas as follows:

- (a) Resource policy and management in relation to the ecological basis for rural development;
- (b) Resource policy and management in coastal zones;
- (c) Assessment of the application of knowledge to arid lands problems;
- (d) Energy systems and policies.

The main change thus concerns a deliberate effort to take up the policy aspects of the use and management of natural resources by addressing not only the scholars and researchers but also the policy-makers. This will be reflected in the work of the programme in the next reporting period.

154. During the year the Coastal resource management project was upgraded to a full subprogramme and renamed Resource Policy and Management in Coastal Zones. Appropriate institutions are being identified to participate in research, training and the dissemination of knowledge in this vital area. Similarly, the programme's evolution has resulted in a change of focus for the former Energy Systems for Rural Communities subprogramme to include policies as well as systems and the urban as well as rural communities.

155. Although the mode of operation of the programme as a whole is to use a diverse network of associated institutions and research and training units located in many countries, continuous efforts are made to link the work being carried out at all these centres through the use of common research themes and the emphasis on interdisciplinary approaches. Across the programme opportunities for exchange are created for scholars within the various networks by means of common workshops, and

through short-term fellowships calculated to enable researchers in one centre to work with their colleagues at another centre. The Natural Resources Programme also shares common activities with the World Hunger Programme in the field of bioconversion of organic wastes for rural communities.

156. Co-operation with other United Nations bodies was maintained and strengthened during the period under review. The Economic Commission for Africa (ECA), the United Nations Environment Programme (UNEP), FAO and UNESCO participated in an agro-forestry workshop held in Nigeria and the United Nations Sudano-Sahelian Office co-sponsored a workshop on arid lands held at Ouagadougou, Upper Volta. The programme has also co-operated vigorously with the Secretariat of the United Nations Conference on New and Renewable Sources of Energy in preparation for the Conference at Nairobi.

A. Subprogrammes

1. Resource Policy and Management in Relation to the Ecological Basis for Rural Development

157. This subprogramme is concerned with the problems of management of renewable resources in rural environments in the developing world. Ecologically sound management practices hold some hope for areas faced with high population growth and adverse man-land ratios. The subprogramme is concentrating on promising systems of resource use which have not received adequate attention in the past. Studies were initially confined to the humid tropics but they have now been extended to include countries such as China, the Republic of Korea and Nepal. There are three project areas: (a) agro-forestry systems, (b) highland-lowland interactive systems and (c) water-land interactive systems.

158. All of the projects have a common methodology of problems being approached by using the concept of resource systems. Resource systems can be roughly defined as a complete chain of events in which a raw material is collected and transformed into an end-product or service. This innovative approach has proved useful for both research and training, as it helps to ensure a comprehensive view of the problems and to facilitate multidisciplinary co-operation. Work on the theory and methodology of resource systems is still being continued with a view to refining the concept and making the necessary input into the projects under consideration. The case studies which were commissioned to test the application of the concept to various resource management issues are nearing completion. A workshop on land evaluation and land use was held in Beijing, China, in September 1980, after which field work was carried out by the participants in the Sanjiang plains in North-East China. The proceedings of the workshop is being prepared for publication either in book form or as one of the Natural Resources Programme Technical Report Series.

(a) Agro-forestry systems

159. Work in this project has been concentrated at two associated institutions, the Tropical Agricultural Research and Training Centre in Costa Rica and Chiang Mai University in Thailand. The former has been the primary base for training, and four United Nations University Fellows are currently in residence there. Research is concentrating on quantifying, both ecologically and economically, the effect of trees in certain traditional agro-forestry systems such as those with coffee and laurel and legumes and pastures. At Chiang Mai University research is concentrating

on the design of agro-forestry systems which can supersede traditional shifting cultivation systems and reduce soil erosion. Close links are being maintained with the project on highland-lowland interactive systems, and another link will be established with a proposed project in Ecuador.

160. In April 1981 a third regional workshop on agro-forestry was held, concentrating on the African humid tropics. Over 60 participants from 14 African countries and 8 international organizations participated, and the results will be published in both English and French.

161. The network further expanded with the establishment of a research and training unit at the University of Freiburg, Federal Republic of Germany. The first University Fellow is expected to arrive in late 1981. In the coming year new activities will be concerned with the development of training courses and agro-forestry curricula.

(b) Highland-lowland interactive systems

162. The year under review saw both considerable progress in existing activities and the establishment of the basis for further work over the next two to three years. During the year the University of Bern, Switzerland, became an associated institution in the subprogramme adding significantly to the project activities. Through Swiss assistance there will be an expansion of research work to include the problems of soil erosion and land management in the mountain areas of Ethiopia. This year also saw the launching of a quarterly journal, Mountain Research and Development, which is being co-published by the University with the International Mountain Society.

163. Three University Fellows from the People's Republic of China undertook specialized training at an associated institution, the University of Colorado at Boulder, Colorado, the United States of America in 1981, and this further strengthened the initial contacts established with China during a symposium on Tibet. The co-ordinator of the project spent several weeks in China in mid-1981 to advise on the establishment of a mountain research station, and plans are being finalized for a task force to examine land-use and mountain hazards in the Hengduan Mountains in 1982.

164. The main field project during this period was to develop the concept of mapping of mountain hazards as a basis for land-use planning in Nepal. By mid-1981 an interdisciplinary team of anthropologists, geomorphologists and soil scientists had completed field work in the Kakani region in the middle mountain zone of Nepal. The results are being written up and will be published either in Mountain Research and Development or as one of the Technical Report series.

(c) Water-land interactive systems

165. The fairly extensive network in this project involves five main institutions: Bogor Agricultural University, Indonesia; the Institute of Geography, Chinese Academy of Sciences, Guangzhou, China; the International Center for Living Aquatic Resources Management, Manila, Philippines; the University of Malaya, Kuala Lumpur, Malaysia; and Kagoshima University, Japan. The emphasis is on research on a series of interactions between land- and water-based production systems. Most of the work is concentrating on the effect of upland resource use on traditional fish production systems, with water as an integrating factor. Work in Japan and the Philippines

relates to traditional near-shore marine fisheries, while Indonesia is concentrating on management of the tambak or brackish-water fish-ponds. In China the goal is to quantify the nutrient cycles and energy flows in complex traditional systems in the Pearl River Delta, which combine silkworms, mulberry trees, vegetable crops and sugar cane with fish-ponds. During 1980 the first annual co-ordination workshop of the Water-land Interactive Systems project was held in Kagoshima, Japan.

2. Resource Policy and Management in Coastal Zones

166. The work of this subprogramme initially formed part of the University's studies of the ecological basis for rural development. However, following the great interest expressed by many developing countries in the Third United Nations Law of the Sea Conference, and its implications for resource management in the marine environment in general and coastal zones in particular, it was decided to upgrade the activities and create a new subprogramme on resource policy and management, in coastal zones.

167. Initial work in coastal resource systems took place in Indonesia, where a training programme has been in operation for two years. The training course, organized jointly with the Indonesian Institute of Sciences, has focused on management of coastal zone resources, and the experience gained can now be extended to other regions. Another centre for research and training will be the University of the South Pacific in Fiji where the initial contacts have already been made.

168. The work in Indonesia and the Pacific region will be continued, but under the new subprogramme expansion to other areas of the world is planned, namely, the East African region, the Gulf area of South Asia and the Caribbean. Discussions have already been initiated with King Abdul Aziz University in Saudi Arabia for a workshop and training programme similar to the one in Indonesia. It is also hoped that another workshop will be held in East Africa in October 1981, to be followed also by training in 1982.

169. Phases I and II of the course in Indonesia, with all Indonesian participants, have been completed satisfactorily. In phase III, however, broader participation is planned to include scientists from other South-East Asian countries, such as Malaysia, Singapore and the Philippines. During the period under review, two publications were produced: the proceedings of the first workshop on coastal resource systems and a monograph on various aspects of resource management deal with the coastal areas of Indonesia.

3. Assessment of the Application of Knowledge to Arid Lands Problems

170. The basic assumption of this subprogramme is that if only a portion of the existing scientific and technical knowledge could be properly applied to arid lands problems there would be a definite improvement in the welfare of their populations. To this end a series of assessment studies have been sponsored, of which the first set of five has already been published. In 1980 three new sets of studies were begun. The first set comprised five detailed studies carried out by the University of Khartoum, the Sudan; these are now being prepared for publication. The second set consists of a series of seminars and a study now being conducted at the Central Arid Zone Research Institute in India to demonstrate the link between the generation of scientific and technical knowledge and its application to the rural

situation. Since the Institute is one of the oldest arid lands research centres in the developing world, the lessons learned from this exercise will be very useful to many other countries now establishing similar research stations to help deal with similar problems. Finally, a research project on the assessment of technical, social and economic aspects of water resources management is being carried out in a salinity control project in the irrigated arid lands of the Indus basin in Pakistan. It is hoped that each of these studies will suggest ways and means to close the gap between the scientists and researchers and the people they are expected to help. The main centres of activity remain the same as those in the previous reporting period: the two associated institutions located in the University of Khartoum, the Sudan, and in the University of New South Wales, Australia, and the research and training units located in the University of Arizona, United States, University College Swansea, United Kingdom, and the University of Hamburg, Federal Republic of Germany. The newest research and training unit is at Cambridge University, United Kingdom.

171. Following the workshop held in Saltillo, Mexico, in early 1980 new activities are in the process of being approved for Chile, Mexico and Peru. Preliminary research proposals have been received from the Universidad Autonoma Agraria Antonio Narro in Mexico, the Universidad Agraria La Molina in Peru and the Catholic University in Santiago, Chile.

172. During 1980 a workshop on the physics of desertification, organized jointly with the International Centre for Theoretical Physics, Trieste, Italy, was held. Early in 1981 two other workshops were held, one in Khartoum for policy-makers responsible for various development projects in the Sudan, and the second in Ougadougou, Upper Volta, dealing with problems of arid lands in West Africa. The Khartoum workshop was in response to the first of the assessment studies dealing with development projects in the arid lands of the Sudan. Some policy recommendations were made to guide the management of future development projects in the Sudan and these will appear in a publication on the workshop. Recommendations from the Ougadougou workshop, jointly sponsored by the United Nations Sudano-Sahelian Office, proposed the establishment of some new activities to help arid lands research in this area of West Africa as well. Another workshop was held at University College Swansea, United Kingdom, in April 1981.

4. Energy Systems and Policies

173. In addition to continuing work, this year has seen the development of new initiatives and preparations for new activities. One of these is the launching of an advanced training programme on renewable energy systems with the Indian Institute of Technology, Delhi, planned for July 1981. The subprogramme has also made considerable contributions to the United Nations Conference on New and Renewable Sources of Energy to be held in Nairobi, Kenya, in August 1981. These have included the designation of ASSET as the official newsletter of the Conference; the preparation of a videotape on an integrated rural production system in Xinbu, Guangdong, China; the preparation of numerous documents as part of the Conference preparatory process, including co-authorship of the Conference secretariat document on education and training; and brief oral and written contributions to the numerous technical and intergovernmental preparatory meetings.

(a) Integrated renewable energy

174. Projects were established in two locations. The first, in Algeria, is the development and construction of an "integrated solar village" in the commune

Ouled-Sidi-Brahim in the Wilaya of M'Sila with the Organisme National de la Recherche Scientifique (National Organization for Scientific Research). Renewable energy, particularly solar, wind and bioconversion energy, will be used for water pumping, heating and desalination. The project also involves the development of a fully automated and independently powered meteorological station which is now obtaining base-line data on incident solar radiation, prevailing winds, and precipitation conditions. The meteorological station has been designed in co-operation with French meteorological scientists.

175. A material testing laboratory is also being established at the research centre on architecture and urban planning of the Organization to undertake studies for the development of improved building materials to be used in the construction of the village.

176. The second project is located in and around Dodoma, the new capital of the United Republic of Tanzania. It involves the establishment of a rural energy research centre and the development, testing and adaptation of renewable energy systems for village use. Six villages in different parts of the region will be provided with energy systems developed by the research centre based on bioconversion, wind and appropriate solar energy technologies.

177. Publications are being prepared in support of these projects, particularly on integrated rural energy systems, including a world-wide survey on village energy projects, photovoltaic applications, passive climatization, biogas technology, and solar energy applications in China.

(b) ASSET

178. ASSET (Abstracts of Selected Solar Energy Technology) is now in its third volume, and its network of scientists, engineers and decision-makers involved in renewable energy activities continues to develop. The ASSET network now includes 900 individual contributors. While most of the recipients of ASSET are from developing countries, a number of institutions and agencies in industrialized countries have also asked to receive it on a regular basis - including, for example, the United States space agency, NASA.

179. During the period under review ASSET was designated the official Newsletter of the United Nations Conference on New and Renewable Sources of Energy. A Conference News section has been added to it to highlight the preparatory activities of the Conference. The Conference secretariat is receiving an additional 1,000 copies of ASSET and 7,000 copies of the Conference News section for its own distribution.

(c) Fuel wood

180. The major work within this project has been at the University of Ife, Nigeria, and by mid-1981 the main project was nearly completed. Fifteen papers summarizing the various components of the project have been prepared and are being collected and edited for presentation. One United Nations University Fellow, working on transportation aspects of fuel wood, completed training and another Fellow arrived in early 1981 to work on the role of women in fuel wood supply and distribution. From this material, specific policy recommendations are expected to emerge, and these will be discussed at a meeting of academics, planners and government officials in mid-1981. Since the main project with its voluminous data on fuel wood

procurement, distribution and use is winding down, activities are shifting to the area around Kano, where the more arid environment exacerbates the problem of fuel wood supply. A similar but smaller study in Malaysia is expected to be completed in late 1981.

181. In addition to the publication resulting from the Nigerian and Malaysian projects, a general review of fuel wood production in the tropical areas of Africa has been prepared. It concludes that fuel wood plantations will have to be established in many areas in order to meet the increasing demand. A similar study is expected to concentrate on Central America, and special emphasis is being given in this report to the links between fuel wood and agro-forestry.

(d) Geothermal energy training

182. Geothermal energy training activities carried out with the National Energy Authority in Iceland, which is assisted by the University of Iceland, has continued with the training of seven United Nations University Fellows. Fellows from China, Mexico, Nicaragua and the Philippines were trained in the 1980 course. The aim of this training course was to improve the knowledge and capability of institutions in developing countries in the area of geothermal energy science and engineering. The University sponsored the first meeting of the Standing Advisory Committee on Geothermal Energy Training which met at Pisa, Italy, in November 1980, to exchange information, examine and co-ordinate existing international training programmes in this field. Participants from the United Nations agencies which sponsor geothermal energy training programmes, including UNDP, UNESCO and the energy conference, participated with the leaders of the United Nations-sponsored training courses from Italy, Japan and New Zealand, and the managers of geothermal energy development projects from many developing countries. This meeting suggested that serious consideration be given to increasing the training capability of developing countries so that regional centres for geothermal training can be established. The proceedings of this meeting will soon appear as a University publication.

(e) Energy policy and planning

183. Following its initial attempt to develop an institute for energy policy and planning in India, the University is developing new activities in this area. They will concentrate, for example, on the implications of global models for developing countries and will focus on the two vital areas of energy and agriculture, and especially on their interactions, the emphasis being placed on recent work in these fields.

B. Programme interaction

184. The Natural Resources and World Hunger programmes have a joint project on the bioconversion of organic residues at the village level. The details of this project are discussed in the World Hunger Programme section (see paras. 75-79).

Associated institutions

- Bogor Agricultural University, Bogor, Indonesia
- Chiang Mai University, Chiang Mai, Thailand
- Chinese Academy of Sciences, Beijing, People's Republic of China
- National Energy Authority, Reykjavik, Iceland
- National Organization for Scientific Research, Algiers, Algeria
- Tropical Agricultural Research and Training Centre, Turrialba, Costa Rica
- University of Bern, Bern, Switzerland
- University of Colorado, Boulder, Colorado, United States of America
- University of Ife, Ile-Ife, Nigeria
- University of Khartoum, Khartoum, the Sudan
- University of New South Wales, Sydney, Australia

Research and training units

Actual

- Agricultural University, La Molina, Peru
- Autonomous Agricultural University "Antonio Narro", Saltillo, Mexico
- Cambridge University, Cambridge, United Kingdom
- Chung-Ang University, Seoul, Republic of Korea
- Institute of Geography, Chinese Academy of Sciences, Guangzhou, People's Republic of China
- International Center for Living Aquatic Resources Management, Manila, Philippines
- International Institute for Aerial Survey and Earth Sciences, Enschede, the Netherlands
- Kagoshima University, Kagoshima, Japan
- National Institute of Oceanology of the Indonesian Institute of Sciences, Jakarta, Indonesia
- National Institute of Science and Technology, Manila, the Philippines
- National Planning Commission, Kathmandu, Nepal
- Tanzania National Scientific Research Council, Dar es Salaam, United Republic of Tanzania
- University College of Swansea, Swansea, United Kingdom
- University of Arizona, Tucson, Arizona, United States of America
- University of Freiburg, Freiburg, Federal Republic of Germany
- University of Hamburg, Hamburg, Federal Republic of Germany
- University of Kyushu, Fukuoka, Japan
- University of Malaya, Kuala Lumpur, Malaysia
- University of Papua New Guinea, Port Moresby, Papua New Guinea
- University of the South Pacific, Suva, Fiji

Projected

- Central Arid Zone Research Institute, Jodhpur, India
- East-West Center, Honolulu, Hawaii, United States of America
- University of Chile, Santiago, Chile

Workshops and meetings: July 1980-June 1981

- Coastal Zone Management Workshop, Jakarta, Indonesia, 19-26 August 1980
- University-International Geographical Union Panel on Natural Resources, Tokyo, Japan, 4-5 September 1980
- First Annual Co-ordination Workshop of the Water-land Interactive Systems project, Kagoshima, Japan, 8-12 September 1981
- Workshop on Land Evaluation and Land Use, Beijing, People's Republic of China, 15-25 September 1980
- Water Transfer Project, People's Republic of China, 5 October-5 November 1980
- Workshop on the Physics of Desertification (organized jointly with the International Centre for Theoretical Physics, Trieste), Trieste, Italy, 11-28 November 1980
- Task Force on the Assessment of the Chiang Mai project, Chiang Mai, Thailand, 12-15 November 1980
- Meeting of the Standing Advisory Committee on Geothermal Energy Training, Pisa, Italy, 12-19 November 1980
- International Workshop on Climatic/Food Interactions (co-sponsored with the Center of Applied Climatology and Environmental Studies, University of Münster), Münster, Federal Republic of Germany, 9-12 December 1980
- Workshop on Arid Lands in Francophone West Africa, Ougadougou, Upper Volta, 26-30 January 1981
- Workshop for Evaluation of Rural Development and Health Programmes in the Sudan, Khartoum, the Sudan, 21-26 February 1981
- Meeting of Natural Resources Programme Project Co-ordinators, Tokyo, Japan, 3-6 March 1981
- International Union for the Conservation of Nature and Natural Resources-UNU Workshop on Environmental Planning, Turrialba, Costa Rica, 14-17 March 1981
- University Advisory Committee Meeting, Tokyo, Japan, 16-20 March 1981
- Workshop on Management of Natural Resources, University College Swansea, Swansea, United Kingdom, 8-14 April 1981
- Workshop on Agro-Forestry in the African Human Tropics, Ibadan, Nigeria, 28 April-2 May 1981
- Resource Policy and Management in Coastal Zones: Review of Phase II task force meeting, Jogjakarta, Indonesia, 30 May-5 June 1981

VI. PROGRAMME SUPPORT ACTIVITIES

A. Academic Services

185. The Academic Services section serves the three programmes of the University in the dissemination of knowledge, both generated by them and from other sources, and in providing a variety of information necessary to programme activities. Its functions are publishing, distribution, and library and referral services.

1. Publishing

186. There are great difficulties in disseminating knowledge today because of the explosive expansion in the amount of information, the interrelated nature of much information, and the interdependence of the problems humankind faces. The mandate of the publishing programme is to produce and disseminate information generated by the University's activities and other sources in forms that will help cope with and overcome these difficulties.

187. The publishing programme has entered a harvesting period after the first three to five years of programme operations. During the period under review, the University published 93 titles, with a significant increase in technical reports. It moved into the third volumes of the two journals Food and Nutrition Bulletin and ASSET, and the first volume of a new co-published journal, Mountain Research and Development. Many book-length manuscripts have been developed from programme activities and are now being processed for publication.

(a) Publishing at the Centre

188. Five issues of the Food and Nutrition Bulletin, which carries scientific articles and technical information of interest to those working on problems of hunger and malnutrition, were published during the period under review, a total of 21,000 copies.

189. Ten issues of ASSET, which carries abstracts of recently available books, articles, reports, and conference papers in the field of alternative energy, were published, a total of 20,000 copies.

190. The University also issued two book-length technical reports of the World Hunger Programme (WHP) and ten book-length reports in the Natural Resources Programme (NRP) technical series; a total of 30,000 copies of these publications were produced. The Human and Social Development Programme (HSDP) generated 136 research papers for distribution to its networks, a total of 165,000 copies.

(b) Publishing away from the Centre

191. Increasing decentralization of publication marked the year under review. The new journal, Mountain Research and Development, which seeks to help mountain management find a better balance between mountain environments, human welfare, and development resources, is published jointly with the International Mountain Society in Boulder, Colorado, United States. One HSDP and two WHP publications were contracted out to European publishers. One NRP and three WHP publications were published by co-operating institutions. Contracts with various publishers are being negotiated for several other titles. Articles written by centre staff members and scholars in the networks have also been published in a variety of journals throughout the world.

(c) Publishing in other languages

192. The University is producing an increasing number of publications in languages other than English. Two NRP technical reports were published in French; another NRP technical report will shortly be published in Spanish. The English-language Food and Nutrition Bulletin has carried articles both in French and Spanish. Ten French and 25 Spanish editions of HSDP research papers have been published or are soon to be published. Twenty Japanese editions of HSDP research papers were published and an Arabic edition of an HSDP programme document is being translated and published in Egypt. The Japanese translation of a WHP technical report was published by a Japanese publisher, and several books from the other two programmes are being translated into Chinese and Spanish.

2. Distribution networks

193. The second area of the dissemination of knowledge effort aims at establishing and maintaining a network for distribution of University publications as well as information from other sources. Attempts to identify the "United Nations University community" worldwide have continued, and a correspondence file, now totalling 12,200 names, has been established.

194. The University's free-distribution channels are growing and include global networks of scientists and policy-makers, government officials, deposit libraries, review media, and documentation centres.

195. The University has also developed a sales network covering most parts of the world. It has participated in a number of book fairs during the year - in Accra, Belgrade, Delhi, Frankfurt, Geneva, Leipzig, London, Manila, and Warsaw - in order to expose its publications to the book industry and the general public as much as possible. Efforts have also been made to get publications reviewed in journals, and publications are receiving increasing attention from these media. In the past two years about 10,000 copies of University publications have been sold.

(a) Library and referral services

196. Co-operating relationships with other reference libraries and institutions have been developed. Continuing computerization of both the distribution networks and the library and referral services is being done by Academic Services to improve their efficiency and effectiveness.

(b) Co-operation with United Nations agencies

197. The Chief of Academic Services participated in three UNESCO meetings over the course of the year: The Expert Meeting on the Role of Cultural Industries in Social Development, Montreal, Canada, June 1980; the Consultative Meeting on the Establishment of a Model Training Course on Publishing Management for Higher Level Personnel in Asia, Kuala Lumpur, Malaysia, January 1981; and as a lecturer at the Asian Cultural Centre for the UNESCO Training Course for Textbook Publishing, Tokyo, October 1980. The University participated jointly with other United Nations agencies in a number of book fairs and exhibitions, and is currently participating in a display of United Nations system publications at New York Headquarters and Geneva.

3. Publications: July 1980-June 1981

World Hunger Programme

Food and Nutrition Bulletin, Volume 2, Numbers 3 and 4

Food and Nutrition Bulletin, Volume 3, Numbers 1-3

"Food Price Policies and Nutrition in Latin America", by Giorgio Solimano and Lance Taylor, 170 pp.

"Nutritional Evaluation of Protein Foods" edited by Peter L. Pellet and Vernon R. Young, 168 pp.

Human and Social Development Programme

(a) Goals, processes, and indicators of development

"Dominant Ways of Life in Denmark/Alternative Ways of Life in Denmark" by Kai Lemberg, Per Løvetand, Steen Juhler, Jens Falkentorp. Morgens Kløvedal, Dino Raymond Hansen, 77 pp.

"Reflexions sur la théorie de l'imperialisme; et révolution ou décadence? La crise du système impérialiste contemporain et celle de l'empire romain" by Samir Amin, 44 pp.

"On Social Indicators and Development" by Cadman Atta Mills, 37 pp.

"Traditional Rural Institutions and Their Implications for Development Planning: Studies from Hamadan Province of Iran" by Hossein Haeri and M. Taghi Farvar, 15 pp.

"Economic Development and the Village in Iran: Prospects for an Alternative Approach" by M. Hossein Haeri, 29 pp.

"The Current Development of the World Economy" by Folker Frobel, 74 pp.

"Perspectives for Development Through Industrialization in the 1980's: An Independent Viewpoint on Dependency" by Otto Kreye, 20 pp.

"Focus Problems Latent in the Construction and Use of Social-economic Indicators" by Hugo Zemelman, 15 pp.

"The Concept of Rationality and the Macro-Indicators of Goal Attainment in Socio-Economic Development" by Zdzislaw Sadowski, 27 pp.

"The Big Rock Candy Mountain - A Paradigm of the Values of the Mass-Consumption Society" by Kimon Valaskakis, 20 pp.

"Dominant and Alternative Lifestyles: Some Observations from the Swedish Scene" by Hans L. Zetterberg, 58 pp.

"How to Improve our Life Styles" by Philippe d'Iribarne, 34 pp.

"Alternative Ways of Life: The Italian Case" by Anna Coen and Eleonora Masini, 29 pp.

"Alternative Ways of Life in Malaysia: What Prospects for the Masses?" by Lim Teck Ghee, 24 pp.

"Alternative Ways of Life in India: Pollution of Poverty or Bane of Affluence?" by Ramashray Roy, 25 pp.

"Aggregated Social Indicators and Some Theoretical Requirements" by the Romanian team, 92 pp.

"Dialectical transformation: A Study of 'Dialogue' as a Method for Research and Development in a Rural Milieu" by Hossein Haeri, 11 pp.

"The Hunger Problématique and a Critique of Research" by Susan George, 72 pp.

"Agrarian Reform and Rural Development: A Perspective and Some Theses" by Johan Galtung, 43 pp.

"Global Modelling...Without Models? Theory, Methodology, and Rhetoric in World Modelling" by Mihai Botez and Mariana Celac, 68 pp.

"Global Processes and the World in the 1980s: Prolegomenon 1 for a GPID World Model" by Johan Galtung, 42 pp.

"An Issue Paper - Contributed by the Energy Study Group of the GPID Project" by Dag Poleszynski, 29 pp.

"Holism and Ecology" by Arne Naess and Danilo Dolci, 17 pp.

"A World System Critique on Freire's Philosophy of Education: Naming the World Capitalist Reality" by Herb Addo, 28 pp.

(b) Socio-cultural development alternatives in a changing world

"Rationality Theory and Experimentation in Ayurvedic Medicine" by Gananath Obeyesekere, 36 pp.

"Endogenous Intellectual Creativity: The Ethos of the Composite Culture of India" by Rasheeduddin Khan, 50 pp.

"Endogenous Intellectual Creativity: Reflections on Some Etic and Emic Paradigms" by A. M. Pandeya, 23 pp.

"The Gear-box of Priorities - Positions" by Anouar Abdel-Malek, 18 pp.

"On the Edge of a Razor Blade (The New Historical Bloks and Socio-Cultural Alternatives in Europe)" by Miroslav Pecujlic, 33 pp.

"Le nécessaire et le possible dans la formation du mondial" by Henri Lefebvre, 24 pp.

"Technology and Society" by Rajko Tomovic, 11 pp.

"Paradigmes scientifiques et auto-détermination humaine" by Yves Barel, 27 pp.

- "The Collective Self-reliance of Developing Countries in the Fields of Science and Technology" by Slobodan Ristic, 23 pp.
- "Science and Technology in Japanese History: University and Society" by Kenji Kawano, 10 pp.
- "Legal Aspect of Transfer of Technology in Modern Society" by Vesna Besarovic, 18 pp.
- "Philosophy (Concepts) of Scientific and Technological Development" by Vladimir Stambuk, 21 pp.
- "Science and the Making of Contemporary Civilization" by J. Leite Lopes, 25 pp.
- "La maîtrise de la vie, pour quoi faire?" by Bruno Ribes, 25 pp.
- "Restructuring a Framework for Assessment of Science and Technology as a Driving Power for Social Development: A Bio-Sociological Approach" by Yuji Mori, 23 pp.
- "Human Aspects of Medical Sciences, Medical Technology and the Responsibility of the Physicians" by Vladimir Milanovic, 8 pp.
- "Towards a Clearer Definition of the Role of Science and Technology in Transformation" by Osama A. El-Kholy, 34 pp.
- "The Technology of Repression and Repressive Technology: The Social Bearers and Cultural Consequences" by Zoran Vidakovic, 21 pp.
- "Nuclear Energy in Latin America: the Brazilian Case" by Luiz Pinguelli Rosa, 20 pp.
- "La apropiación y la recuperación de las ciencias sociales en el contexto de los proyectos culturales endogenos" by Guillermo Bonfil Batalla, 32 pp.
- "Science and Technology in the History of Modern Japan - Imitation or Endogenous Creativity?" by Tetsuro Nakaoka, 22 pp.
- "Science and Technology as an Organic Part of Contemporary Culture" by Zvonimir Damjanovic, 12 pp.
- "Science, Technology and Politics in a Changing World" by José A. Silva Michelena, 9 pp.
- "Intellectual and Cultural Creativity in the English-speaking Caribbean: Obstacles and Challenges" by Locksley Edmondson, 18 pp.
- "Problemas de la cultura, la clase obrera, y los intelectuales" by René Zavaleta Mercado, 26 pp.
- "Le défi informationnel dans un monde en métamorphose" by Patrick Roger, 52 pp.
- "L'Encadrement du développement de la science et de la technologie dans la Caraïbe" by Jean Casimir, 18 pp.

(c) Sharing of traditional technology

"The Role of Traditional Water Management in Modern Paddy Cultivation in Sri Lanka" by the Marga Institute, 78 pp.

"A Comparison of the Traditional Malay House and the Modern Housing Estate House" by Lim Jee Yuan, 33 pp.

"Traditional Technology, A Neglected Component of Appropriate Technology: Characteristics and Problems - a Malaysian Case Study" by Khor Kok Peng, 27 pp.

"Traditional Technology: Trail Suspended Bridge Constructions in Nepal" by Prachanda Pradhan, 21 pp.

"Some Traditional Sri Lankan Medical Techniques Related to Acupuncture" by the Marga Institute, 98 pp.

"The Fertilization Technology Described in Farm Manuals and that Utilized by Modern Farm Households" by Gakushuin University, 65 pp.

"Traditional Technology: Obstacles or Resources" by Anton Soedjarwo (Dian Desa Institute), 18 pp.

(d) Technology transfer, transformation, and development: the Japanese experience a/

"How Japan's Metal Mining Industries Modernized" by Fumio Yoshiki (E), 65 pp.

"A Selected Bibliography on Socio-Economic Development of Japan, Part I: Circa 1600-1940" edited by Hirokazu Tada (E), 156 pp.

"The Lower Socio-Economic Classes and Mass Riots in a Provincial City" by Tetsuya Hashimoto (E), 43 pp.

"Independence of Japanese Railway Technology and Progress in Standardization" by Katsumasa Harada (E), 20 pp.

"Japan's Industrial Development Policy and the Construction of the Port of Nobiru" by Hiromi Masuda (E), 31 pp.

"The Development of the Bicycle Industry in Japan after World War II" by Tatsuzo Ueda (E), 72 pp.

"The Development of Technology Adapted to Urban Life -- Focusing on the Lower Socio-Economic Class" by Shogo Koyano, 31 pp.

"Lower Socio-Economic Class Urban Society in Tokyo and Housing for the Poor -- Up to the Early 1920's" by Hiromichi Ishizuka, 34 pp.

"The Development of Waterworks in Japan" by Nobuhiko Kosuge, 26 pp.

a/ All publications published in Japanese. Those designated by (E) have also been translated into English.

"The Transmission of Metalsmithing Down Through the Generations in Kanazawa and Its Transformation" by Yoshio Tanaka, 34 pp.

"The Organization of Town Associations and Their Operational Problems: A Case Study of Prewar Tokyo" by Hachiro Nakamura, 27 pp.

"Prewar Japanese Iron and Steel Industry, and Iron Ore Resources in the 'South Sea' Region - Development of Iron Ore Resources in Malaya by Ishihara Sangyo" by Bunji Nagura, 54 pp.

"Road Transportation in the Age of Railways" by Hirofumi Yamamoto, 26 pp.

"The Development of Road Construction Technology in Japan - Part II" by Ichiro Ishii, 32 pp.

"The Japanese Bicycle Industry - Its Origin and Early Development - An Introductory Analysis" by Tsuneyoshi Takeuchi, 60 pp.

"The Evolution and Structure of the Clock-Making Industry in Japan" by Kyoza Takechi, 36 pp.

"Endogenous Technology and Society in Japan" by Junnosuke Sasaki, 29 pp.

"The Progress of Urbanization and Prospects for Regional Agriculture" by Naraomi Imamura, 29 pp.

"Agricultural Production and Irrigation in Areas Dependent on Reservoirs" by Keijuro Nagata, 52 pp.

"Establishing Process of Ogo River - Yamada Canal" by Isao Hatate, 44 pp.

"Reservoirs and Community Formation: Reservoirs as a Cultural Factor" by Takeshi Tomosugi, 20 pp.

"The Development and Diffusion of Improved Hybrid Silkworms in Japan - The First Filial Generation" by Yukihiro Kiyokawa, 39 pp.

Programme on the Use and Management of Natural Resources

ASSET, Volume 2, Numbers 4-10

ASSET, Volume 3, Numbers 1-3

"Rural Energy Systems in the Humid Tropics: Ife Workshop Report," 56 pp.

"Social and Environmental Aspects of Desertification" edited by J. A. Mabbutt and A. W. Wilson, 40 pp.

"Proceedings of the Jakarta Workshop on Coastal Resources Management" edited by Eric C. F. Bird and Aprilani Soegiarto, 106 pp.

"Bedouins, Wealth, and Change: A Study of Rural Development in the United Arab Emirates and the Sultanate of Oman" by R. Cordes and F. Scholz, 65 pp.

"Séminaire sur l'énergie solaire pour les communautés rurales," 49 pp.

"Spatial Analysis for Regional Development" by Dennis A. Rondinelli, 45 pp.

"Perception of Desertification" by R. L. Heathcote, 134 pp.

"Shifting Cultivation in Northern Thailand" by Terry Grandstaff, 44 pp.

"Environmental Changes on the Coasts of Indonesia" by Eric C. F. Bird and Otto Ongkosongo, 52 pp.

"Research and Training for Management of Arid Lands" edited by J. A. Mabbutt, 48 pp.

Interprogramme publication

"Interdisciplinary Dialogue on World Hunger" by Dr. Wallerstein, 67 pp.

B. Information Services

198. The objective of the work of Information Services is to increase world-wide awareness and understanding of the University among opinion-formers and policy-makers - particularly in academic and scientific communities, and governmental, non-governmental, and other international organizations - in order to gain their support for its aims and activities.

199. The principal methods used to achieve this objective during the period under review were the printed word and the briefing of influential media.

200. The budget of Information Services remained static in real terms for the third consecutive year and again declined as a proportion of the University's total budget; since 1978-1979 this proportion has dropped from 10 per cent to 6.6 per cent.

201. The Newsletter, which represents the University's largest communication effort, continued to appear quarterly and to improve its coverage of the University's activities both in its news pages and "Work in Progress" Supplement. "Work in Progress", which gives more specialized information about the University's activities, appears to be striking a particularly responsive chord among academics and policy-makers, judging from letters received about its contents.

202. The Newsletter appeared in a larger size at the beginning of the period under review; this gives more than twice as much editorial matter as the previous size for a cost increase of 50 per cent. Consideration has been given to a further increase from eight to ten or twelve pages; the objective would be to make this change without adding to staff or distribution costs.

203. The print order for the Newsletter is approximately 33,000 in four languages, a growth of some 5,000 over the previous year. The quality of distribution was improved through a continuous "cleaning process" of the distribution list, whereby, first, addressees are asked to confirm their interest on a form designed for computer input, and, subsequently, those who have not replied are informed that mailing of the Newsletter will stop if the completed form is not returned. The

process has now been completed for West European countries and North America and as a result approximately 50 per cent of the addressees were dropped in Europe and approximately 25 per cent in North America.

204. Studies have been made during the year of the possibility of reducing printing costs of the Newsletter and other publications by printing elsewhere than Tokyo. Detailed specifications were prepared and estimates obtained from a number of countries in Asia and Latin America. Surprisingly, the savings appear to be very small indeed, even if accepting lower quality paper, and would probably disappear if associated distribution costs were taken into account. Further studies will be made.

205. The range of the University's information publications during the year, in addition to the Newsletter, was as follows: "Illustrated Annual Report," UNU ('basic') brochure, and "Talking Points about UNU". Each has a clearly defined purpose.

206. All of these publications have been produced in Arabic, English, French, Japanese and Spanish. In addition, "Talking Points" has been published in Chinese.

207. The "Illustrated Annual Report" was published as "The Fifth Year." An inserted 'update' sheet has been produced which will prolong its useful life, particularly since it is more than an annual report, in that it contains a review of the University's first five years of operation. Two 'Updates' were also prepared for the 'basic brochure', and a new edition of "Talking Points" was published.

208. During the period under review, the University, with Information Services as the liaison point, completed its first full year as co-publisher of the United Nations periodical, Development Forum (the agreement took effect from 1 March 1980 for a two-year period). Twenty-two major articles of at least one page and many shorter items either dealt with the University's activities directly or were written by scholars and scientists associated with the University. The main role of Information Services has been to stimulate and channel suggestions for contributions by programme staff and other scholars, and to brief the Editor on University activities of likely interest.

209. Co-operation was established with several UNESCO publications and services and, as a result, it is expected that a number of articles will be carried in them in the near future.

210. Information Services continued its efforts to gain coverage of the University's aims and activities in influential media. The University-sponsored lecture by Pope John Paul II in Hiroshima was reported in the New York Times, le Monde, Nature, the Washington Post, and Time magazine. Two full-page articles about University conferences appeared in the London Times Higher Education Supplement, which also carried a favourable leading article about the University's first five years. A long general article about the University was carried by the Asian Wall Street Journal. A link was established with Depthnews, a Manila-based press service, with resultant stories about the University and its activities in a number of Asian newspapers. A number of articles and news stories appeared in local publications in connexion with University visits, meetings, and workshops; in addition articles by programme staff members appeared in scientific and other specialist publications.

211. In Japan, Information Services obtained satisfactory coverage of events and announcements in the press. Articles, or interviews with the Rector, appeared in all the leading newspapers and several journals. Both the arrival of the new Rector and the extensive discussion of a permanent headquarters site signalled a reawakening of Japanese media interest in the University.

212. At the invitation of the University, the annual meeting of the Joint United Nations Information Committee took place at the University in February. This Committee, which is chaired by the Under-Secretary-General for Public Information, consists of the heads of information of all United Nations agencies. The Rector addressed the Committee on "Communicating the Future."

213. In all its work, Information Services in Tokyo was assisted by Mr. C. T. Isolani, the University's Representative for Europe and, for certain activities, by the Liaison Office in New York and the Executive Director of the American Council for United Nations University.

C. Administrative Services

214. The Administrative Services Division, the largest organizational unit in the University, provides, through its various sections, management, legal, conference, personnel, recruitment and staff, financial, budget, and other administrative services and support to all the programmes, divisions and staff, both at the University centre in Tokyo and in the field.

215. The world-wide expansion of the activities of the University has resulted in correspondingly increased responsibilities for all sections of the Division. As the budget increases, greater allocations are being made to programme activities. The percentage of financial resources allocated to the Administrative Services Division has declined from 15 per cent in 1978 and 13 per cent in 1979 to 11 per cent in both 1980 and 1981.

1. Conference and General Services

216. This section is responsible for provision of essential services at the Tokyo centre, viz., a centralized registry for receipt and dispatch of communications, telex and telephone operations, upkeep and maintenance of offices, conference rooms and other related facilities and services. This includes effective management and utilization of office space and furnishings made available by the Government of Japan for the Tokyo centre. During the period under review, considerable time and effort were devoted to negotiating with the Government for the acquisition of additional offices to cope with the increase in the number of staff members and visiting consultants. These additional offices were made available in June 1981.

217. The section also makes travel arrangements for Council members, staff, consultants, and participants in numerous programme meetings in different parts of the world. During the past year, travel arrangements were made for approximately 1,500 persons who travelled on behalf of the University.

218. The section also handles contractual arrangements for printing University reports, documents and publications, and procurement of required equipment, supplies and other services and is responsible for property management, inventory records and control. The procurement activities have expanded to include purchase

of equipment and supplies on behalf of associated institutions as well as for other United Nations agencies.

219. During the period under review, this section made logistic and administrative arrangements for two sessions of the University Council, one in Tokyo and the other in Geneva, the eighth session of the Joint United Nations Information Committee, which was hosted by the University in Tokyo, and several other programme meetings held in Tokyo and elsewhere. Arrangements included travel and per diem payments, conference facilities, as well as simultaneous interpretation in some cases, document reproduction and other services as required.

2. Personnel Services

220. Having more or less completed the innovatory tasks of helping the University evolve its basic adaptations of United Nations personnel policies and procedures, the section has now grown into an efficient processing machine for implementing these adaptations, in many instances in fields where Personnel Services is not usually involved - such as the establishment of financial contracts for specific work assignments to associated institutions. The main thrust of its activities, however, continues to be the day-to-day administration of personnel, both at the Tokyo centre and in the field. It is hoped that in the coming year those institutions and co-ordinators still administered directly by programmes will finally be incorporated into the centralized personnel system of the University. Of the 12 specimen tasks on which Personnel Services maintains statistics, it is expected that between 7,000 and 9,000 individual items will have been processed during the year.

3. Finance

221. This section manages the investment portfolio of the Endowment Fund and effects payment for services rendered in various parts of the world. The expansion of University activities, the increase in the number of meetings at headquarters and elsewhere and the over-all increase in University personnel resulted in a substantial increase in the number of financial commitments and payments.

4. Budget

222. This section, which was established in 1979, has developed guidelines for budget preparation and implementation and introduced new techniques for financial control. The University delivered about 90 per cent of its 1980 approved budget and each organizational unit of the University was able to stay within its approved budget for the period under review.

5. Legal Services

223. The Legal Counsel provides legal advice to all units of the University, including assistance in the preparation of letters of agreement and memoranda of understanding. The Legal Counsel also participates in discussions at United Nations Headquarters, New York, concerning various complex administrative matters which are difficult to resolve by correspondence.

6. United Nations University Liaison Office to the United Nations, New York

224. The University maintains an office in New York responsible for liaison activities with all elements of United Nations Headquarters, Member States and non-governmental organizations. In addition to these responsibilities, during the period under review, the Liaison Office also aided with information distribution functions.

VII. PLANNING AND DEVELOPMENT

225. The two main tasks of the Planning and Development Division are fund-raising and institutional relations. During the period under review, a period of transition with a new Rector and new Council, the University has been reviewing its activities and has been engaged in a series of extensive consultations concerning the future work of the University. The Division has participated in these efforts, while being particularly concerned with fund-raising and institutional relations.

226. Fund-raising and institutional development are an integral part of the work of the University and, therefore, cannot be effectively undertaken in isolation from other activities. This has become increasingly the case as Governments and other sources of funding come to look more and more for evidence of the progress achieved by the University, its long-term plans and how they relate to their own interests and priorities. It must again be stressed here, as was done in the Rector's reports entitled "Fund-raising" and "Institutional Relations - Incorporated Institutions" (UNU/C/16/L.5 and UNU/C/16/L.5/Add.1), that the University should not proceed on the basis of expediency or ad hoc arrangements, but that its programme and institutional development should be the result of extensive consultations and carefully-planned approaches towards the fulfilment of the global mandate of the United Nations University.

A. Institutional development and other relations

227. Under the terms of its Charter the University has established the following relationships: associated institutions, research and training units, and other contractual relations. More recently the University concluded a general agreement of co-operation with the Academy of Sciences in China. However, no incorporated institutions, as envisaged in the Charter, have yet been established. At its tenth session, in June 1978, the Council considered a paper on Institutional Relations (UNU/C/10/L.5) presented by the Vice-Rector for Planning and Development, which, among other things, dealt with incorporated institutions. It had been the position of the Council during the early years that, given the University's limited human and financial resources, it should concentrate on associated institution relations and should establish incorporated institutions only if a programmatic need could not otherwise be satisfied and provided that the capital and most of the recurrent costs of setting up such institutions could be met by the Government and other sources in the host countries or elsewhere.

228. In his report to the Council in December 1980, which reviewed the proposals for institutional relations the University had received since its inception and other initiatives related to the institutional development of the University, the Rector proposed that the University should make a policy change and should look more seriously into the matter of incorporated institutions as one of the important options it should adopt in its future programme and institutional development. The Council welcomed the proposal and asked the Rector to propose various possibilities for the establishment of incorporated institutions, which, while addressing urgent global problems, would respond to regional needs and the United Nations University's relations with the university systems in various parts of the world and with other national, regional and international scientific organizations.

229. The Division has been assisting the Rector in his initiative to establish a Global Economic Policy Research Institute, and in exploring the idea of an institute for mother and child. The Division is also assisting in developing co-operative relations with a number of international institutes and organizations to help strengthen scientific and technological capabilities in the developing countries and to respond to many other institutional initiatives in different regions of the world. The Division has also been concerned with strengthening relations with university systems and scientific organizations throughout the world, notably with the International Association of Universities, regional associations of universities and scientific research councils.

230. The Vice-Rector for Planning and Development is the Rector's representative on the International Commission for the Establishment of the University for Peace. He also co-ordinates the work of the Senior Consultant to the Rector for Latin America who was appointed in 1981 to consult with academic and government leaders in the various countries of Latin America and explore further possibilities for programme and institutional development in that region. The Vice-Rector, in addition, co-ordinates the work of the University's Representative for Europe in maintaining relations with Governments, academic institutions and other organizations. The Division works through the University's Liaison Office in New York to keep in regular touch with the permanent missions to the United Nations and maintain working relations with other United Nations organs and agencies. The Division maintains contact with the embassies of Member States in Tokyo and undertakes missions to Member States, as appropriate, to mobilize their co-operation and support for the work of the University.

B. Fund-raising

231. A unique feature of the University is the nature of its financing. Unlike most United Nations organizations, the University does not receive annual subventions from the General Assembly or Member States. Income is derived mainly from interest yielded by an Endowment Fund. This is a capital fund made up of voluntary contributions from Member States, and it has two parts: one for support of all the University's activities and the other limited to support of activities concerning developing countries. The University also receives annual operating contributions and project support for its work. The University's Charter grants it autonomy within the framework of the United Nations, including full authority to allocate its funds as it deems appropriate for its programme and institutional development.

232. During the period 1 July 1980 to 18 June 1981, \$US 4,343,053 was pledged and/or contributed to the University by 19 Governments. These contributions, for the most part, reflect payments on endowment pledges made in previous years or the continuation of annual contributions. The Governments of Jordan, Mexico, and the United Arab Emirates made new pledges or contributions to the Endowment Fund. The Governments of Algeria and Argentina made their first contributions to the Operating Fund. Pledges to the Endowment Fund and Operating Fund from 34 Governments now total \$US 143,742,727 of which \$US 112,069,014 has been received. An additional \$US 388,980 has so far been received from non-governmental and other sources in support of specific projects.

233. A number of Governments, institutions and others have made indirect contributions in cash and in kind towards the work of the University. It should

also be noted that the University's support to associated institutions, research and training units, and other participants in the University's networks has in turn helped in obtaining extra funds for the activities of these institutions from the Government and other sources within their countries.

234. The Council of the University, at its sixteenth session, in December 1980, in reviewing the Rector's report on fund-raising, emphasized the importance of the Endowment Fund as the principal source of income for the University and reiterated the importance of establishing a universal base for funding by generous contributions from all Member States to provide the resources necessary for the University to continue its work in accordance with its global mandate. The Council also reconfirmed the importance of obtaining additional financial resources, over and above the goals for the Endowment Fund, to support major global and regional projects, including the establishment of incorporated institutions. Such funds should preferably be special "earmarked" capital contributions for long-term institutional commitments or multiannual financial agreements to support major projects of the University.

235. During the period under review, the University negotiated the funding of a number of major projects and institutional developments with intergovernmental agencies such as the Development Fund of the European Economic Community and UNDP. Explorations for funding possibilities from foundations and other funding agencies have also continued, and preparation of concrete project proposals for consideration by these sources has begun.

236. As the University moves into its next stage of programme and institutional development, it expects increasingly to raise substantial financial support for its major projects and proposed incorporated institutions from different sources, and it hopes, above all, that a number of Governments will soon decide on generous contributions to the Endowment Fund of the University.

237. The composition of the Endowment Fund a/ as at 18 June 1981 is as follows:

	<u>Pledged</u>	<u>Paid</u>
Japan	\$100 000 000 (over 5 years) (September 1973)	\$ 90 000 000
Venezuela	10 000 000 (over 5 years) (August 1975)	4 000 000
United Kingdom	9 784 736 (over 5 years) (£5 000 000)(December 1978) <u>b/</u>	4 260 799
Saudi Arabia	5 000 000 (over 5 years) (March 1977)	4 070 000
Sudan	5 000 000 (over 5 years) (December 1976)	-
Germany, Federal Republic of	4 324 324 (over 4 years) (DM 8 000 000)(April 1979)	1 603 782
Ghana	2 500 000 (over 5 years) (May 1976)	1 750 000
Senegal	1 028 807 (over 5 years) (CFA 250 000 000)(August 1977)	226 193
India	750 000 (over 5 years) (February 1977)	581 250
Thailand	500 000 (over 5 years) (March 1979)	300 000
Mexico	500 000 (over 2 years) (October 1980)	239 130
United Arab Emirates	300 000 (October 1980)	300 000
Sweden	231 215 (August 1975)	231 215
United Republic of Tanzania	100 000 (February 1979)	40 000
Holy See	50 000 (February 1977)	50 000
Jordan	30 000 (September 1980)	30 000
<u>Total</u>	<u>\$140 099 082</u>	<u>\$107 682 369</u>

a/ Some of the pledges are announced in convertible currencies of the respective countries and paid subsequently. The dollar amounts for such pledges were calculated at the United Nations exchange rates at the time the pledges were made; however, these dollar amounts are subject to change depending on the United Nations exchange rates at the time of the actual payments.

b/ Earmarked for the special section of the Endowment Fund for support or programme activities concerning developing countries.

238. Operating contributions and project support received from or pledged by Governments as at 18 June 1981 are as follows:

Japan	\$1,000,000	March 1981
Austria	238,800	January 1977
	61,600	October 1977
	72,000	September and November 1978
	65,430	June 1979
	47,040	September 1979
	78,740	June 1980
	39,370	September 1980
	30,350	May 1981
Sweden	208,877	November 1977
	114,155	February 1979
Switzerland	191,440	a/ March 1978-June 1980
Norway	180,018	April 1976
	189,251	May 1977
	194,780	February 1978
	196,715	November 1979
	202,799	January 1980
	185,185	February 1981
Netherlands	100,000	July 1976
	100,000	July 1977
	100,000	December 1978
	125,000	Pledged July 1980
	200,000	August 1980
Zaire	100,000	July 1977
Libyan Arab Jamahiriya	50,000	December 1976
	50,000	February 1977
	50,000	Pledged August 1977
	25,000	January 1980
	25,000	March 1980
Philippines	50,000	Pledged June 1978; paid \$30,000
Nigeria	50,000	Pledged December 1978; paid \$20,000
Algeria	30,000	Pledged 7 May 1981
Senegal	22,087	January 1975
	24,005	July 1978
Greece	20,000	January 1976
	20,000	December 1977
	25,000	July 1978
	30,000	June 1979
	35,000	June 1980
Mexico	11,948	September 1980
Ghana	14,750	May 1975
	14,790	November 1975
	14,790	June 1977
Malaysia	10,000	July 1978
	10,000	March 1979
Tunisia	11,433	September 1978 and May 1981
Indonesia	10,000	August 1980
Chile	5,000	March 1979
Sri Lanka	5,000	Pledged November 1979; paid \$3,000
Argentina	5,000	August 1980
Ethiopia	2,000	July 1979
Cyprus	1,292	June 1978
	<u>\$4,643,645</u>	

VIII. FINANCE AND BUDGET

A. Income

239. During the 12-month period ended 31 December 1980, the total funds available to the Operating Fund amounted to \$US 12,144,334, including interest income of \$US 11,319,025 earned by the Endowment Fund.

240. The assets of the United Nations University as at 31 December 1980 amounted to \$US 149,023,610. This amount includes \$US 34,414,333 of pledged contributions not yet received from governments.

241. The 1981 budget of \$US 15,600,000 is based on income from the following sources:

	<u>US dollars</u>
Interest income from the Endowment Fund and other funds functioning as endowment already received	11,118,000
Interest income from the Endowment Fund contributions in 1981 pledged and confirmed in writing	312,000
Operating contributions	1,670,000
Programme contributions	100,000
Estimated unencumbered fund balance	2,400,000
Total	15,600,000

242. Operating and programme contributions are those intended by the donors for expenditures for current operations and not as contributions to the Endowment Fund. Use of these contributions for current operations, provided authorization is given by the donors, was approved by the Council at its ninth session.

243. The unencumbered fund balance represents the excess of income over expenditures during the last six years. Until Endowment Fund income is disbursed, the unencumbered fund balance remains on deposit, earning interest.

B. Expenditures

244. During 1980, the total expenditures incurred for the operations of the University amounted to \$US 12,354,317, of which \$US 3,075,213 was unliquidated obligations as at 31 December 1980. The total expenditure in 1980 and the planned expenditure for 1981 are shown below.

	<u>1980 actual</u>	
	<u>US dollars</u>	<u>Percentage</u>
Programme Division	9,317,536	75.4
Administrative Services	1,581,519	12.8
Rector's Office	650,322 <u>a/</u>	5.3
Planning and Development	436,200	3.5
Council	368,740	3.0
	<u>12,354,317</u>	<u>100.0</u>

	<u>1981 planned</u>	
	<u>US dollars</u>	<u>Percentage</u>
Programme Division	12,340,000	79.1
Administrative Services	1,685,000	10.8
Rector's Office	675,000	4.3
Planning and Development	600,000	3.9
Council	300,000	1.9
	<u>15,600,000</u>	<u>100.0</u>

a/ Includes \$US 70,000 for other programme activities.

245. The components of the programme divisions approved expenditure for 1981 are as follows:

	<u>US dollars</u>	<u>Percentage of Programme Division</u>
Programme (external) <u>a/</u>	9,015,000	73.1
Programme (internal) <u>b/</u>	1,427,000	11.5
Information Services	1,200,000	9.7
Academic Services	698,000	5.7
	<u>12,340,000</u>	<u>100.0</u>

a/ Includes all costs of programme activities with the exception of staff salaries and common staff costs.

b/ Includes all costs of staff salaries and common staff costs of the three programmes.

246. Resources allocated in 1981 to the three programmes for external and internal costs are shown below:

	<u>US dollars</u>	
	<u>External</u>	<u>Internal</u>
World Hunger Programme	3,027,000	422,000
Human and Social Development Programme	2,761,000	457,000
Use and Management of Natural Resources	2,758,000	547,000
	<u>8,546,000</u>	<u>1,426,000</u>

ANNEX III

Members of the Advisory Committee

- Dr. Maurice Strong, Chairman of the Board, AZL Resources, Inc., Phoenix, Arizona, United States of America (Chairman)
- Dr. Ahmad Youssef Al-Hassan, Professor, Aleppo University, Aleppo, Syrian Arab Republic
- Dr. Gelia T. Castillo, Professor of Rural Sociology, Department of Agricultural Education, College of Agriculture, University of the Philippines at Los Baños, Laguna, Philippines
- Dr. Lincoln C. Chen, Visiting Faculty, Department of Population Sciences, Harvard School of Public Health, Boston, Massachusetts, United States of America
- Dr. Ralf G. Dahrendorf, Director, London School of Economics and Political Science, London, United Kingdom
- Dr. Celso Furtado, Professor of Economic Development, University of Paris, Paris, France
- Dr. Janusz W. Golebiowski, Professor and Director, Institute of Labour Movement, Warsaw, Poland
- Dr. Saiyid Nurul Hasan, Vice-President, Council of Scientific and Industrial Research, New Delhi, India
- Dr. Paul-Marc Henry, President, Le Club de Genève, Paris, France
- Dr. Victor A. Kovda, Professor, Institute of Agrochemistry and Soil Science, Academy of Sciences of the USSR, Moscow, Union of Soviet Socialist Republics
- Dr. Carlos A. Mallmann, Executive President, Bariloche Foundation, San Carlos de Bariloche, Argentina
- Dr. Adolpho Mascarenhas, Director, Bureau of Resource Allocation and Land Use Planning, Dar es Salaam, United Republic of Tanzania
- Dr. Carmen Miro, Visiting Professor, El Colegio de Mexico, Mexico City, Mexico
- Dr. Sanga Sabhasri, Secretary-General, National Research Council, Bangkok, Thailand
- Dr. Mahmoud Mohamed Safar, Deputy Minister of Higher Education and Secretary-General, Supreme Council of Universities, Riyadh, Saudi Arabia
- Dr. Abdus Salam, Professor, International Centre for Theoretical Physics, Trieste, Italy

- Dr. Marie Angélique Savane, President, Association des Femmes Africaines pour la Recherche et le Développement, Dakar, Senegal
- Dr. Theodore Schultz, Professor, Department of Economics, University of Chicago, Chicago, Illinois, United States of America
- Dr. Albert Tevoedjre, Director, International Institute for Labour Studies, International Labour Office, Geneva, Switzerland
- Dr. C. A. van Peursen, Professor of Philosophy, State University, Leiden, Netherlands
- Dr. Raimo Vayrynen, Chairman and Professor of International Relations, Department of Political Science, University of Helsinki, Helsinki, Finland
- Dr. Michael J. Wise, Professor of Geography, London School of Economics and Political Science, London, United Kingdom
- Dr. Wu Chuan-chun, Deputy Director, Institute of Geography, Chinese Academy of Sciences, Beijing, People's Republic of China
- Dr. Toru Yano, Professor, The Center for Southeast Asian Studies, Kyoto University, Kyoto, Japan

ANNEX IV

Programme Co-ordinators

1. World Hunger Programme

Dr. Fred T. Sai, UNU-WHP Interregional Co-ordinator for Africa and Europe, Institute of Statistical, Social and Economic Research, University of Ghana, Legon, Ghana

Dr. Samir Miladi, UNU-WHP Regional Co-ordinator for the Middle East and North Africa, UNDP, Tunis, Tunisia

Dr. Maria-Angélica Tagle, UNU-WHP Regional Co-ordinator for Latin America, UNDP, Santiago, Chile

Dr. Guillermo Arroyave, UNU Resident Co-ordinator, Institute of Nutrition of Central America and Panama, Guatemala City, Guatemala

Dr. Josef Brozek, UNU Resident Co-ordinator, the International Food and Nutrition Policy Program, Massachusetts Institute of Technology and the Harvard School of Public Health, Cambridge, Massachusetts, United States of America

Dr. J. C. Dillon, UNU Resident Co-ordinator, Centre for Research in Nutrition, Laval University, Quebec, Canada

Dr. Luis Fajardo, UNU Resident Co-ordinator, Universidad del Valle, Cali, Colombia

Dr. Rodolfo Florentino, UNU Resident Co-ordinator, Nutrition Center of the Philippines, Makati, Philippines

Drs. A. Jackson (Jamaica) and L. B. Rankine (Trinidad), UNU Resident Co-ordinators, University of the West Indies, Kingston, Jamaica and St. Augustine, Trinidad

Dr. Miguel Layrisse, UNU Resident-Co-ordinator, Venezuelan Institute of Scientific Research, Caracas, Venezuela

Dr. C. P. Natarajan, UNU Resident Co-ordinator, Central Food Technological Research Institute, Mysore, India

Dr. R. Orraca-Tetteh, UNU Resident Co-ordinator, Department of Nutrition and Food Science, University of Ghana, Legon, Ghana

Dr. E. M. Thain, UNU Resident Co-ordinator, Tropical Products Institute, London, United Kingdom

Dr. Nobuzo Tsumura, UNU Resident Co-ordinator, National Food Research Institute, Tsukuba, Japan

Dr. Ricardo Uauy, UNU Resident Co-ordinator, Institute of Nutrition and Food Technology, University of Chile, Santiago, Chile

Dr. Aree Valyasevi, UNU Resident Co-ordinator, Institute of Nutrition, Mahidol University, Bangkok, Thailand

2. Human and Social Development Programme

Dr. Anouar Abdel-Malek, Project Co-ordinator for the Project on Socio-cultural Development Alternatives in a Changing World, Institute of Human Sciences, National Centre of Scientific Research, Paris, France

Dr. Carlos A. Mallmann, Project Co-ordinator for the Project on Goals, Processes, and Indicators of Development, Bariloche Foundation, San Carlos de Bariloche, Argentina

Dr. Takeshi Hayashi, Project Co-ordinator for the Project on Technology Transfer, Transformation, and Development: The Japanese Experience, Research Planning and Co-ordinating Office, Institute of Developing Economies, Tokyo, Japan

Dr. Amilcar Herrera, Project Co-ordinator for the Project on Research and Development Systems in Rural Settings, State University of Campinas, Campinas, São Paulo, Brazil

Mr. Chandra Soysa, Project Co-ordinator for the Project on Sharing of Traditional Technology, Marga Institute, Colombo, Sri Lanka

3. Programme on the Use and Management of Natural Resources

Dr. Eric Bird, Project Co-ordinator for the Project on Coastal Resource Management, Department of Geography, University of Melbourne, Parkville, Victoria, Australia

Dr. Gerardo Budowski, Project Co-ordinator for the Project on Agro-forestry Systems, Head, Natural Renewable Resources Programme, Tropical Agricultural Research and Training Centre, Turrialba, Costa Rica

Dr. I. B. Fridleifsson, Project Co-ordinator for the Project on Geothermal Energy Training, National Energy Authority of Iceland, Reykjavik, Iceland

Dr. Jack D. Ives, Project Co-ordinator for the Project on Highland-lowland Interactive Systems, Director, Institute for Arctic and Alpine Research, University of Colorado, Boulder, Colorado, United States of America

Dr. Maurice Lévy, Project Co-ordinator for the Project on Energy for Rural Communities, Laboratory of Theoretical and High Energy Physics, Pierre and Marie Curie University, Paris, France

Dr. G. J. Afolabi Ojo, Project Co-ordinator for the Project on Rural Energy Systems, Department of Geography, University of Ife, Ile-Ife, Nigeria

Dr. Kenneth Ruddle, Project Co-ordinator for the Project on Water-land Interactive Systems and Consultant, Research Associate, National Museum of Ethnology, Osaka, Japan

ANNEX V

Staff members of the United Nations University

Office of the Rector

Soedjatmoko, Rector
Dr. Michio Nagai, Senior Adviser to the Rector
Dr. Jose V. Abueva, Secretary of the University
Mr. S. Chidambaranathan, Executive Officer
Mr. Jose Mata, Assistant to the Secretary of the University

Planning and Development

Dr. Alexander A. Kwabong, Vice-Rector
Mr. Vagn Kjellberg, Governmental and Institutional Relations Officer

World Hunger Programme

Dr. Nevin S. Scrimshaw, Senior Adviser to the Rector
Dr. Urban Jonsson, Programme Officer
Mrs. Rozanne Chorlton, Assistant Programme Officer

Human and Social Development Programme

Dr. Kinhide Mushakoji, Vice-Rector
Dr. Pedro Henriquez, Programme Officer
Dr. Hossam Issa, Programme Officer

Programme on the Use and Management of Natural Resources

Dr. Walther Manshard, Senior Adviser to the Rector
Dr. Richard S. Odingo, Senior Programme Officer
Dr. Walter C. Shearer, Programme Officer
Mr. Lee H. MacDonald, Programme Officer

Academic Services

Mr. Shigeo Minowa, Chief
Miss Yasuko Tashiro, Translator
Mr. James E. Ricketson, Copy-Editor/Proofreader
Mr. Michael Gautrey, Copy-Editor/Proofreader

Information Services

Mr. R. A. Fleming, Director
Mr. John M. Fenton, Writer/Research Officer
Mr. Amadio A. Arboleda, Publications Control Officer
Mr. Kazuo Tsushima, Information Officer (Japan)
Mr. Gérard Jacquemier, Translator
Mr. Norberto Muller, Translator

Administrative Services

Mr. Douglas T. Manson, Director of Administration
Mr. Leslie Schenk, Chief, Personnel Services
Mr. Rabinder N. Malik, Chief, Conference and General Services
Mr. Akio Komatsuki, Chief of Finance and Japanese Government Liaison Officer
Mr. Barry de Crummere, Finance Officer
Mr. Wayne Ching, Chief, Budgetary Services

New York Liaison Office

Mr. Ivan Kanterovitz, Administrative Officer

Information Office for Europe

Mr. C. T. Isolani, Representative, c/o United Nations Information Centre, London

كيفية الحصول على منشورات الأمم المتحدة
يمكن الحصول على منشورات الأمم المتحدة من المكتبات ودور التوزيع في جميع أنحاء العالم . استلم منها من المكتبة التي تتعامل معها
أو اكتب إلى : الأمم المتحدة ، قسم البيع في نيويورك أو في جنيف .

如何购取联合国出版物

联合国出版物在全世界各地的书店和经销处均有发售。请向书店询问或写信到纽约或日内瓦的联合国销售组。

HOW TO OBTAIN UNITED NATIONS PUBLICATIONS

United Nations publications may be obtained from bookstores and distributors throughout the world. Consult your bookstore or write to: United Nations, Sales Section, New York or Geneva.

COMMENT SE PROCURER LES PUBLICATIONS DES NATIONS UNIES

Les publications des Nations Unies sont en vente dans les librairies et les agences dépositaires du monde entier. Informez-vous auprès de votre libraire ou adressez-vous à : Nations Unies, Section des ventes, New York ou Genève.

КАК ПОЛУЧИТЬ ИЗДАНИЯ ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ

Издания Организации Объединенных Наций можно купить в книжных магазинах и агентствах во всех районах мира. Наводите справки об изданиях в вашем книжном магазине или пишите по адресу: Организация Объединенных Наций, Секция по продаже изданий, Нью-Йорк или Женева.

COMO CONSEGUIR PUBLICACIONES DE LAS NACIONES UNIDAS

Las publicaciones de las Naciones Unidas están en venta en librerías y casas distribuidoras en todas partes del mundo. Consulte a su librero o diríjase a: Naciones Unidas, Sección de Ventas, Nueva York o Ginebra.
