

III. ACTION

United Nations University: Academic and Institutional Development for 1991

ACADEMIC AGENDA

The University's agenda for research, training and dissemination in 1991 followed the University's Second Medium-Term Perspective (MTP II) adopted for the period 1990-95. The most important activities are part of programmes started in 1990, or built on projects and results of the University's past work. There are new programmes; however some of them are still in the early stage of planning.

Programmes

Each programme is made up of projects focusing mainly on research. Training activities will continue throughout the year (progressing primarily from research projects) and in terms of new fellowships, sponsored through cost-sharing arrangements with various institutions and from external sources of funds. Dissemination will undergo improvements with the establishment of the United Nations Press and the development of plans for new publishing-related activities.

The programmes are organized under five interrelated areas reflecting the major global issues identified in MTP II on which the University is currently concentrating.

1. *Peace, Culture and Governance* focuses on the fundamental global transformations and the corresponding responsibilities for dealing with them which call for new means, involving multilateral approaches and a fresh appraisal of governance, to resolve conflicts within and between nations.
2. *The Global Economy* concentrates on the major restructuring of the world economy and the ever-present problems of trade, poverty, debt and environmental deterioration faced by developing economies.
3. *Global Life Support Systems* looks at the ways to preserve the earth's life support systems by responding to the urgent and global nature of major environmental changes predicted for the coming decades.
4. *Science and Technology* is focused on the advances in science that could be a vital factor in dealing with global transformation, and also covers the social impact of scientific knowledge of developing countries and the limitation of access to it on their part.
5. *Population and Human Welfare* considers aspects of population dynamics and human welfare, including the approaching explosion of 'mega-cities' throughout the developing world, as well as questions of nutrition, health and higher education.

PEACE, CULTURE AND GOVERNANCE

The three programmes under this area address the need for finding new ways of managing cultural and other conflicts arising from major international transformations and for meeting the responsibilities that result from global-level changes. The programmes may evolve into research and training centres for programmes on governance, and on culture and development, in Barcelona, Spain and Fukuoka City, Japan respectively.

1. *Governance and Conflict Resolution*. This programme aims at examining the underlying conditions for internal conflicts, not only

between nations but also among institutions and opposing groups within nations, particularly where they are manifested through direct violence. Related issues derive from struggles for identity by groups within nations, whether on the basis of ethnicity, language, religion or region. Responses by states to these have been both positive and negative, and there is much to be learned from a comparative analysis of the ways these conflicts have been handled.

The programme will work together with other institutions in strengthening policy proposals for conflict resolution. For example, together with the United Nations Research Institute for Social Development (UNRISD), a collaborative project on 'Socio-economic and Political Consequences of the International Trade in Illicit Drugs' was due to be launched in 1991.

Forthcoming activities include international meetings on cultural violence, with special reference to the problems of Latin America in cooperation with the Peruvian Peace Research Association (APEP), in Lima, Peru, another in Asia, in cooperation with the International Peace Research Institute (PRIO). Two regional training seminars on conflict resolution and negotiation are also planned for both Latin America and in Asia in collaboration with local institutes and scholars. The implication of the 'New Europe' will be examined in an autumn meeting in Budapest.

2. *Multilateralism and the United Nations System*. The programme will focus on ongoing political, economic, socio-ideological, cultural and structural changes and their impact on the behaviour and power relationships among human groups, and on the creative and responsive potential of international organizations, particularly the United Nations system.

Initial activities include: (a) a survey on research on the UN system, (b) comparative perspectives on multilateralism, (c) country case studies on perspectives on the UN system and (d) changing socio-political structures and emerging forces. The role of the UN in peace keeping is the subject of a meeting to be held in Japan in September.

3. *Culture and Development*. This programme is designed to contribute to the World Decade for Cultural Development (1988-97) by focusing on one of its four main objectives: the cultural dimension of development. This will be studied from a regional and global perspective and will help to create, through meetings and comparative research, regional and global networks of scholars and institutions. It will be carried out in close collaboration with Unesco.

Building on two international conferences held in 1990 on the theme of culture and development in Asia and the Pacific, plans are under way to hold similar conferences in other regions with a view to designing a global programme. Discussions are under way on a feasibility report on the proposed UNU institute on culture and development in Asia and the Pacific.

THE GLOBAL ECONOMY

The United Nations University World Institute for Development Economics Research (WIDER) in Helsinki, Finland, is carrying out the programmes in this area. Most of WIDER's research represents the maturing of past projects, primarily in terms of publications and international conferences.

Hunger and Poverty – The Poorest Billion. The first four volumes in the Food Strategies project series were published and a conference was organized in Helsinki in July, bringing together policy makers from the developing world. The Quality of Life and Living Standards project brought philosophers together with economists and other social scientists to investigate the basic questions defining the quality of life for developing countries.

Another project on public action for social security in developing countries is in its second phase. It explores the possibility for comprehensive systems of social security in developing countries and examines the role of public action in providing social security in different states of India.

The project on 'Human Capabilities, Women, Men and Ethical Objectivity', focuses on cultural relativism, especially as it affects the quality of life for women in developing countries.

Money, Finance and Trade: Reform for World Development. This overview project on macro-economic policies seeks to deepen an understanding of the functioning of the global economy. Several books on this subject were published recently or will be in the near future. The annual report of the World Economy Group was issued in 1991. A major project will study the economic reforms in the socialist countries and is aimed at policy analysis in the area of economic management in Eastern Europe and the Soviet Union.

Other projects include research on: (a) mineral-based industrialization strategies and international industrial cooperation, (b) social accounting matrix development for selected developing countries and (c) policies to expand earnings of Sub-Saharan Africa from commodity exports.

Economics of Environment and Development. The first phase of the project on this subject culminated in a research conference in September 1990 in Helsinki which was followed by a project on the environment and emerging development issues and an International conference on transnational commons in 1991. A round table on the 'Economics of Transnational Commons', organized jointly with the University of Sienna and the International Economic Association, was held in April 1991. A background paper on central policy findings, after review by a group of eminent scholars in the field, will be presented to the 1992 United Nations Conference on Environment and Development.

Women and Development. The projects under this programme consist of research on (a) Identity Politics in the Maghreb, (b) Empowering Women in the Casualized Trades, (c) Women, Equity and Reproductive Technology, (d) National Development, Cultural Political Movements, and Feminism and (e) Femmes Maghreb Horizon 2000.

Another project, 'Women as Social Actors in Managing Global Change', under discussion is aiming at: (a) identifying the values and modes of behaviour representing women's culture and (b) attempting a conceptual definition of equality between the sexes, taking into consideration women's identity.

Security and Development. The Security and Development project focuses on two areas of inquiry: (a) overdevelopment and underdevelopment and (b) the Military Sector and Global Economic Change. A meeting was held in July 1990 to discuss the progress of work and an outline of future activities within the project.

GLOBAL LIFE SUPPORT SYSTEMS

Issues concerned with global life support systems, including energy development and conservation, global environmental change, and the sustainable use of natural resources, will be studied under five programmes. Some of these programmes will be carried out under the Institute of Natural Resources in Africa (INRA) and others under the proposed Institute on Global Environment and Human Health.

1. *Mountain Ecology and Sustainable Development.* Focusing on sustainable development in mountain regions, this programme is concerned with the interrelationship between mountain ecology and human activities and the interaction of mountains and lowlands. It develops interdisciplinary methods and systematic approaches for

the management of complex mountain ecosystems that will have to combine the often conflicting objectives of conservation and development. The main objectives are to review and assess research and training needs in environment and resource interactions between highland and lowland regions, to support regional mountain research centres and develop networks of researchers, to cooperate in the efforts to support research of the International Mountain Society and the African Mountain Association, especially in developing countries, and to provide a scientific advisory service.

The projects under this programme are as follows.

- (a) The creation of a database for the natural and human resources of the Tajik Republic of Central Asia. This database will be used to construct an electronic atlas and a series of scenarios for 1990, 2020, and 2050, which will assist natural resource management strategies in this mountain environment.
- (b) The initiation of a new UNU umbrella project for a series of research activities in the CIS, Pakistan and Nepal, utilizing a similar approach and methodology.
- (c) The organization of an international workshop in Chile in 1991 to study the mountain ecology of the Andean region and contribute towards establishing a Latin American Mountain Association.

An important ongoing activity is the quarterly *Mountain Research and Development*, which is published jointly with the University of California Press.

2. *Programme for Natural Resources in Africa.* To assist various efforts to develop indigenous capabilities for the management and rehabilitation of Africa's natural resources and environment and for the establishment of an Institute for Natural Resources in Africa (INRA), a programme of research and training activities was planned in 1990. The specific objectives of the programme are to strengthen institutions, to help mobilize scientists and technologists, and to provide them with the capacity to generate and apply knowledge and innovative technologies in formulating planning and policy options.

3. *Human Dimensions of Global Change.* The Human Dimensions of Global Change Programme (HDGCP) is an international research undertaking sponsored by the University in cooperation with the International Science Council (ISSC), the International Federation of Institutes of Advanced Study (IFIAS) and Unesco. Its aim is to bring together social scientists and managers of human activities in research and related activities focused on investigating the human causes and consequences of global environmental change and related policy issues. The programme is intended to improve scientific understanding and increase awareness of the complex dynamics governing human interaction with the earth as a whole system, to strengthen efforts to study social changes that affect the global environment, to analyse policy options, and to identify appropriate social strategies to deal with undesirable impacts of global environment change.

The programme operates in five key areas and involves scholars in the social and natural sciences from different parts of the world in a number of important research activities and scientific meetings. The five areas are: (a) Global Climatic Change: Strategies of Response, (b) Global Risk Assessment and Critical Environmental Areas, (c) Industrial Restructuring and the Analysis of Industrial Metabolism, (d) Legal, Ethical, and Institutional Dimensions of Global Change, (e) Methods of Analysis, Modelling and Data Requirements. The activities undertaken include a number of key multilateral conferences and preparations for publications as inputs for the 1992 UN Conference on Environment and Development (UNCED). As contributions to the preparation for UNCED, a meeting on 'International Governance and Global Environment Change' was organized in June 1991 and another on 'Future International Governance of the Oceans' in July 1991.

4. *Energy, Technology and Environment.* This programme will focus on contributing to the body of knowledge on the environmental applications of energy use and appropriate technological and political responses in order to provide decision makers with information on available and expected energy options. Technology can play a role in reducing environmental impacts through energy

and materials conservation, emission and waste treatment, substitution among energy sources, fuels and materials, and recycling of water. The programme explores options and strategies in this respect.

A significant step in this direction was taken with the completion of the pre-feasibility survey for the establishment of a network of centres of excellence on New and Renewable Sources of Energy (NRSE). The cluster of projects in the programme would fall under the aegis of NRSE if it is established.

5. *Sustainable Development in the Humid Tropics*. The programme focuses on the complex interactions of physical and human activities in the humid tropics which cover about one-fifth of the land mass of the earth. The overall aim of the programme is to promote ecologically as well as socially and economically sustainable development in the humid tropics, with a focus on the climatic, biotic and human interactions and the importance to the global life support system. It will also try to identify the conditions needed for sustainable development and to promote the preservation of the natural biodiversity and global life support functions of the humid tropics.

All activities in this programme are new and, therefore, in an exploratory stage. The UNU and Gadjah Mada University in Yogyakarta, Indonesia, together with the Australian National University, agreed to organize an international conference on 'Towards a Sustainable Environmental Future for the South-east Asian Region' in May 1991, to contribute to the understanding of environmental issues as related to development in the South-east Asian region. A conference on the 'Definition and Measurement of Sustainability' was also organized for late 1991. The programme is also conducting extensive training in Brazil for African and Latin American Fellows on the subjects of remote sensing technology, and ecology and the management of inland waters.

SCIENCE AND TECHNOLOGY

Programmes in the areas of science and technology have three main bases of institutional or programmatic implementation: (a) the Institute for New Technologies (INTECH) in Maastricht, the Netherlands, (b) the Biotechnology in Latin America and the Caribbean programme (BIOLAC) in Caracas, Venezuela, and (c) the International Institute of Software Technology (UNUIST) in Macau.

Implications of Advances in Science and Technology. This programme is examining the consequences of technological change and developments at the frontiers of knowledge through various forms of debate and analysis, including special symposia. The primary goal of the programme is to develop an interdisciplinary and integrative approach to studying the implications of scientific and technological advances.

The Institute for New Technologies (INTECH), which began operations in October 1990, will be concerned with two major projects: (a) an analysis of the GATT Uruguay Round agreements on trade in intellectual property and assessment of their implications for developing countries and (b) an assessment of the impacts of economic crisis and structural adjustments programmes on the development of technological capabilities in developing countries, particularly in sub-Saharan Africa. Collaborative research programmes on the economic and social implications of new technologies will be established among cooperating institutions in Africa, Asia and Latin America. In collaboration with the University of Tokyo, the first Tokyo seminar in the series, 'The Impact of Chaos on Science and Society', was planned for April 1991. A meeting on 'Ethics in Access to Scientific Information' was also planned.

Science and Technology for Development. This integrative programme is concentrating on producing and publishing an authoritative sourcebook that will address fundamental questions of science and technology policies and on holding regional training courses with a focus on aspects of the sourcebook. The course will also look

at 'Technology Planning in Latin America and Technology Information Management in Asia'. The sourcebook is being aimed at policy makers in developing countries.

A final editorial meeting was held in spring 1991. Unesco's regional offices for Science and Technology in Latin America and Asia jointly organized training courses in March and August, respectively, utilizing sourcebook material and involving its authors. It is also intended to hold a course in Africa.

Biotechnology in Latin America and the Caribbean (BIOLAC). The programme is aiming at developing and promoting biotechnology for the improvement of socio-economic conditions in the region by carrying out fundamental research in specific areas of biotechnology and genetic engineering and by providing opportunities for specialized training. It will also strengthen the infrastructure for a regional network of laboratories and scientists to ensure that existing knowledge will be fully utilized and to reduce the time-span between scientific breakthroughs and their application.

BIOLAC research and training activities are conducted along three areas of concentration: (a) vaccine development and improved diagnostic methods for human and animal diseases, (b) plant genetic engineering with special reference to diseases and pest resistance and improvement of nutritional quality, and (c) microbiological fermentation for industry.

These activities are carried out in collaboration with the leading biotechnology institutions in the region. Efforts are under way to increase liaison between BIOLAC and other agencies in the region, such as the International Centre for Genetic Engineering and Biotechnology, the UNDP/Unesco/UNIDO Biotechnology Programme for Latin America and the Caribbean, and the Organization of American States. The Inter-American Development Bank has been approached to provide financial support for BIOLAC's activities.

Microprocessors and Informatics. This programme, which started as a project on Mastering Microprocessor Technology in 1983, undertakes research and advanced training and dissemination activities focusing on three areas: (a) integrated microprocessor-controlled instrumentation systems, (b) informatics for the efficient management of complex man-made systems and (c) strengthening of the teaching of micro-informatics in selected developing-country institutions. The research activities are aimed at enhancing the efforts of developing countries to keep abreast in this fast-changing area, to promote application of the technology in various enterprises and development projects, and to develop microprocessor-based expert systems. Most of the activities are being carried out jointly with other research institutions and universities throughout the world. Among them are the International Centre for Theoretical Physics (ICTP) in Italy for short-term postgraduate training, the University of Yaoundé in Cameroon, the University of Malaya in Malaysia, and the Asian Institute of Technology in Thailand.

In cooperation with the Institut National de Recherche en Informatique et Automatique (INRIA), postgraduate training and research on parallelism and artificial intelligence are proceeding at the University of Yaoundé in Cameroon. In addition, lecturers from the University of Yaoundé with the support of the UNU have also given lectures at other universities in West Africa, thus contributing to the formation of a sub-regional research and training network. The development of microprocessor-based medical expert systems has been carried out involving experts from the Asian Institute of Technology in Thailand and the University of Malaya. Plans are under way to initiate major activities in the areas of artificial intelligence and information processing for decision making. Activities under this programme will be linked closely with those of the United Nations University International Institute for Software Technology (UNUIST) in Macau.

POPULATION, HEALTH AND HUMAN WELFARE

This area is concerned with problems related to world hunger and malnutrition, the management of urban concentrations, demographic issues, and the international division of labour and

consequent migration flows. It also includes issues such as the interaction of health, environment, higher education in developing countries and models of analysis of complex social issues which require instruments of analysis beyond the methods of research provided by single scientific disciplines.

Food and Nutrition for Human and Social Development. The activities in this programme focus on research, policy making, training and dissemination to contribute to the alleviation of hunger and malnutrition. It has achieved a number of important results through its past activities which will continue under the following projects.

- (a) Rapid Assessment Procedures (RAP) – a methodology applied with success by several UN agencies for assessing and improving the effectiveness of nutrition and primary health care projects. The International Dietary and Energy Consultative Group (IDECG) compiles and interprets research data on the consequences of deficiency, changes and excess of dietary energy intake. This activity is administered by the UNU on behalf of the ACC Sub-Committee on Nutrition.
- (b) International network of food data systems (INFOODS) – this is intended to improve the quality, quantity and accessibility of food composition data. Regional liaison groups have been established for Asia and Oceania, Europe, Latin America, the Middle East and North Africa, North America and Sub-Saharan Africa. Plans are under way to establish regional data centres.
- (c) Country health and nutrition transition – This new activity will develop a series of monographs documenting the achievements made by several developing countries in improving the nutrition and health of their populations to levels approaching or equal to those of the industrialized countries.

Other activities to be undertaken in this programme include the following: (a) to continue work in compiling food intake data for as many countries as possible towards the development of an international directory of food intake data (INFID), (b) to continue research for studying the social and economic consequences of micro-nutrient deficiencies under various environmental conditions, (c) to compile data on anthropometric measurements, (d) to undertake research on nutrition and aging and (e) to promote the development of dietary guidelines for health with special focus on safe weaning food and motherhood practices.

The Joint AAU (Association of African Universities) and UNU Regional Food and Nutrition Project for Africa continued in 1991. This project is intended to strengthen the capacities of selected institutions in food technology and post-harvest conservation.

Alternative Rural-Urban Configurations. Taking as its focus the accommodation of urban populations that will increase rapidly in the next few decades, this programme is aimed at defining critical policy-relevant research, creating appropriate linkages among academics and UN agencies, and disseminating relevant research findings to policy makers and the academic community. Several activities have been undertaken in this connection, including a recent meeting on Mega-cities co-sponsored by the UN Population Division, and a forthcoming meeting on administrative decentralization.

The UNU is also planning to undertake a study on 'Emerging Asian-Pacific City Systems' in 1992 and will formulate similar studies in Latin America and Africa. The University's Institute of Advanced Studies, which is expected to be located next to the new headquarters building in Tokyo, will also conduct studies on certain aspects of mega-cities.

Implications of Demographic Change. In collaboration with other UN agencies and a network of scholars, this programme is investigating the implications of global and regional population dynamics for development, environment, political order and human welfare. In doing so it plans to assess the consequences of population growth, the implications of differences between population growth rates in developed and developing countries, and issues related to changing demographic composition and population distribution.

Activities under this programme include Phase II of the UNU/ILO Asian Regional Project on International Labour Migration which was launched in July 1990. A preparatory workshop on the

impact of structural economic adjustment in Asia on international labour flows proposed a study to highlight economic and demographic determinants of trends and structural changes in the labour market and emerging patterns. It should take into account country-specific matters and policy issues and responses. Research project proposals have been agreed upon and country studies are being undertaken currently by scholars in participating institutions in Thailand, Hong Kong, Japan, the Philippines, Taiwan and Singapore.

Higher Education in Developing Countries. The aim of the project is to analyse the nature and changing role of 'universities' and seek new and better models of institutions for higher education, to provide guidelines for reshaping higher education systems in an effort to adapt them to the present and future needs of developing countries, and to improve communication and cooperation among institutions for higher education through information exchange and dissemination at regional and international levels. The project began with a joint study by UNU and Unesco on 'The Evolution of the Role of Universities in Developing Countries'. The study was conducted through a number of papers and the collection of selected documentation which were synthesized through the organization of a small working panel. The output of this work will serve as input into the global reflection on higher education in the Unesco agenda for the next few years. A meeting is being planned concerning Eastern European universities.

Global Modelling and Warning System. Currently, two related projects are planned. One is the Millennium Project, for which a feasibility study is being proposed to be undertaken jointly by the UNU, the Smithsonian Institute, and the Futures Group. The other is a UNU Conference on 'Global Warning System: Modelling and Application' which was scheduled for October 1991 in Tokyo, and was one of the activities related to the start-up of a programme of the Institute of Advanced Studies, to be carried out in collaboration with the UN Projections and Perspective Studies Branch.

Training activities

In addition to the training activities under each of the programmes, the UNU continued its Fellowship programme in 1991 in association with several universities and institutions throughout the world. The training is organized at the University's research and training centres and programmes and its associated institutions, and at other cooperating institutions in various parts of the world.

The UNU training policy aims at institution-building in a South-South context. Under this perspective, the University cooperates with universities and other research and training institutions in developing countries and assists them in building endogenous capacities and expertise in science and technology. For this purpose, the University provides Fellowships for the advanced training of personnel from institutions in developing countries and undertakes other institution-building measures as an integral part of the University's various programmes and projects.

In the University's experience, training and institution-building in a South-South context is advantageous for strengthening endogenous capacities and expertise in developing countries. The training and research undertaken at institutions in developing countries provide better opportunities for the Fellows to work on problems that are comparable to those in their home countries. They are therefore in a better position to continue their research and development work after returning to their home institutions. Such South-South cooperation is also advantageous to the training institutions in developing countries, in that they will have a larger number of postgraduate Fellows and will normally receive additional resources. They will thus be able to develop further their capacities and undertake advanced research and training projects in a cost-effective manner. Furthermore, through such training and institution-building, a growing number of universities and other research and training institutions in the various developing countries can establish long-term cooperation in areas of mutual concern.

The University is seeking contributions from the various funding sources in order to expand its training and institution-

building activities for the benefit of universities and other research and training institutions in developing countries, including support for Fellowships and assistance to the Fellows' home institutions.

Dissemination developments

The University has published a number of books from the Centre programme and WIDER and INTECH programme activities, and continues to issue its four journals, *Food and Nutrition Bulletin* (FNB), *Abstracts of Selected Solar Energy Technology* (ASSET), *Mountain Research and Development*, and *Food Composition Data*, as well as working papers, research reports and country studies.

With the reorganization of the University's publication unit as the United Nations University Press at the beginning of 1990, plans are being undertaken to expand dissemination to accept for possible publication under UNU imprint top-quality outside manuscripts. In addition, the Press is studying how to play a role in ongoing international efforts to aid developing country scholar-authors and publishers to gain access to major publishing routes and markets. As part of its strategy to make UNU Press books more readily available to buyers in developing countries, a developing-country price policy has been in operation since 1990.

INSTITUTIONAL DEVELOPMENTS

As the number of new Research and Training Centres and Programmes (RTCs and Ps) increases, the University has had to consider a more decentralized and streamlined University programme structure. More thought has also gone into developing RTCs and Ps as part of the University's goal of assisting the long-term enhancement of the research capabilities of universities and research institutes in developing countries. At present, there are about ten Research and Training Centres and Programmes planned or being proposed for consideration. The topics of all of them, such as governance and conflict resolution, culture and development, software development for developing countries, human dimensions of global change, environment and human health, science and society, outer space, ocean affairs and marine science, are consistent with the priorities of MTP II and include areas on which UNU programmes could build. The establishment of all the research and training centres and programmes, each of which is designed to respond to an aspect of the University's programme and has a proper niche in it, has been guided largely by the MTPs. Their establishment has also been in line with the basic concept of developing a decentralized system of institutes and programmes operating with a degree of autonomy under the authority of the Rector. In addition, RTCs and Ps are providing more appropriate opportunities for potential donors to give funding for programme activities.

World Institute for Development Economics Research – WIDER (Helsinki, Finland). WIDER, which was formally established in 1984 in Helsinki with an initial contribution of US\$30 million from the Government of Finland, is largely responsible for the University's activities in the area of the Global Economy and Development. Since the start of its operation in 1985, it has gained a reputation for the relevance of its work which focuses primarily on global economic development processes, particularly the exploration of areas where development economics is concerned with such topics as increasing social welfare, environmental resources issues, Third World debt and governance of the world economy. To date it has issued a number of technical reports and studies, the most recent of which are the Study Group Reports on 'Debt Reduction' and 'World Economic Summits' and the 1989 Annual Reports of UNU/WIDER's Policy Group on the World Economy titled 'World Imbalances', and has published several books.

Institute for New Technology – INTECH, (Maastricht, Netherlands). INTECH, which will be located in Maastricht, was formally established by the Council in July 1988. Its primary purpose is to undertake research, advanced training, dissemination and advisory services on selected new technologies, particularly in relation to developing countries. Specifically, the Institute will carry out

integrative work on the technical aspects of new technologies and their economic and social implications; contribute to the blending of new and traditional technologies in order to promote the process of development; assess the impact of new technologies on production, trade, employment and welfare; improve understanding of the factors influencing diffusion and application of new technologies; examine desirable directions of development of new technologies.

The Government of the Netherlands has contributed Hfl.30 million (US\$14.8 million) to the University's Endowment Fund for INTECH, and will provide an annual index-linked contribution of Hfl.1 million (US\$0.47 million). Additionally, INTECH will also be eligible to apply for research and training funds from the Ministry of Education and Science in the Netherlands. Premises will be made available free of charge at Maastricht.

The first Board and the founding Director of INTECH, Dr Charles Cooper, were appointed in 1990. Two basic programmes were scheduled to start full-scale activities in 1991. These research programmes will put emphasis on setting up a scholarly community *in situ* in Maastricht and the development of a network of cooperating institutions in developing countries. Visiting scholars from Africa, Asia and Latin America will spend part of their time at INTECH in Maastricht to undertake specific research activities, and part of their time to build up a network of cooperating institutions in their respective regions.

Institute for Natural Resources in Africa (INRA). INRA is designed to strengthen national institutions in Africa, to help to mobilize scientists and technologists throughout the continent, to attract others back to Africa, and to provide the organizational framework and management capacity for the generation and application of scientific knowledge and innovative technologies to aspects of natural resources in the context of self-reliant development.

The University is starting the first programme intended to lead to full implementation of INRA with the support of UNDP and others in the area of natural resources in Africa. The Director of INRA, Dr Bede Okigbo, was appointed in 1990 and a scientific advisory committee was appointed in 1991. Temporary facilities have been made available at Unesco's Regional Office of Science and Technology for Africa (ROSTA) in Nairobi. This will ensure the implementation of programme activities in the area of natural resources in Africa and will also form a basis for the continued mobilization of the necessary resources for the commencement of INRA's operation.

Biotechnology in Latin America and the Caribbean – BIOLAC (Caracas, Venezuela). The inaugural meeting of the Scientific Advisory Committee of this programme was held in January 1989 in Caracas. The programme is concentrating its efforts on (a) vaccines for human and animal diseases and diagnostics, (b) plant genetic engineering with special reference to resistance against diseases and pests and improvement of nutritional quality and (c) microbial fermentations of industrial interest.

The basic activities are financed by the income derived from the investment of US\$2 million received from the Government of Venezuela. Though this income is not sufficient to mount activities commensurate with the mandate of the programme, a proposal is being presented to the Inter-American Development Bank in order to obtain additional resources. The University is also actively seeking funds from other sources.

United Nations University International Institute for Software Technology – UNUIIST (Macau). This proposed Institute was formally established in December 1990. The central purpose of UNUIIST is to undertake an adaptation of advanced computer software to meet the needs and strengthen the capabilities of developing countries in software technology. UNUIIST will carry out its own research and development in software technology in selected areas, working in cooperation with visiting researchers and Fellows from developing countries; it will provide training for professionals from developing countries in software methodologies and tools, as well as the management of software projects and it will monitor, evaluate and disseminate information related to software technology.

The feasibility study was financed by the authorities of Macau, who subsequently informed the University of their readiness to host

UNUIIST, to provide premises and facilities free of charge, to make a contribution of US\$20 million, including support from Portugal and the Government of the People's Republic of China, and additionally to raise US\$10 million for the University's Endowment Fund for UNUIIST. The University was expected to sign the agreements concerning the terms and conditions for the establishment and operation of UNUIIST early in 1991.

Proposed Institute of Advanced Studies (Tokyo, Japan). In December 1989, the Council adopted the basic document setting out the nature, programme orientation, *modus operandi*, and organization and personnel of the proposed Institute of Advanced Studies to be located in Tokyo. Negotiations are now being carried out as expeditiously as possible on the relevant agreements with the Government of Japan and the Tokyo Metropolitan Government, concerning the terms and conditions for the establishment and operation of the proposed Institute. The premises of the Institute will be made available free of charge by the Tokyo Metropolitan Government, which is also expected to provide an annual subsidy in support of the Institute's activities. It was envisaged that the proposed Institute would be established formally by the Council in 1991.

Proposed Research and Training Centre on Culture and Development (Fukuoka, Japan). In 1989, the University began a feasibility study concerning a proposal by the City of Fukuoka to set up a UNU Institute devoted to the study of culture and development in the Asia and Pacific region. The feasibility study was completed in mid-1990. The institutional relationship of the proposed Institute with the Research and Training Centre in Tokyo and the University Centre will be examined within the context of the overall institutional development of the University.

Proposed Research and Training Centre on Global Environment and Human Health (Ulm, Germany). The State of Baden-Württemberg and the University of Ulm have shown interest in the establishment of a Research and Training Centre on global environment and human health at Ulm. A feasibility study and an international consultative meeting have been carried out. Negotiations with the German government and consultations with academic institutions and international organizations have been continued. A small international working group will be established to plan start-up activities which would lead to the possible establishment of the proposed Research Institute.

Proposed Research and Training Centre on Governance (Barcelona, Spain). A feasibility study team met twice in Barcelona in May and October 1990 to define, in general terms, the operational, organizational and funding needs of the proposed Centre. The meetings also considered various concepts and approaches of governance and the relationships between state and society as manifested in different parts of the world. Plans called for an international consultative meeting held in April 1991 to discuss the report, as well as a parallel

project in the area of governance in Latin America and the Caribbean. As a result of these meetings, a comprehensive report was prepared to be submitted to the Council in 1991.

Proposed Programme on Ocean Affairs and Marine Science (Sassari, Italy). Preliminary consultations have been conducted with the Rector of the University of Sassari, Sardinia, concerning cooperation in the area of ocean affairs and marine science. A feasibility study is being planned.

Proposed Network of Centres of Excellence of International Scope on New and Renewable Sources of Energy – NRSE. A survey financed by the Government of Italy, in collaboration with the Office of the Director General for International Economic Cooperation and the Italian National Agency for Nuclear and Alternative Energy (ENEA), has identified nearly 800 institutions in developing countries involved in NRSE. A progress report was presented to the UN Intergovernmental Committee on the Development and Utilization of NRSE. The completed survey will be presented to the Consultative Group on NRSE. Exploratory work also began on the establishment of a Working Group on Alternatives to Coal and Fuelwood and on the formation of a training course on energy conservation and efficiency.

Proposed Research and Training Centre on Outer Space and Society. The feasibility study report on the proposed Centre which was endorsed by the Council in December 1988 was financed by the government, which has since informed the University that regrettably it was unable to make available the necessary financial and other resources required for the establishment and operation of the proposed Institute. The government has expressed its support for the University's efforts towards the possible establishment of the proposed Institute elsewhere, and would be glad to cooperate with it once it was established. The University is continuing to seek the necessary support from various countries and other sources for this project.

ASSOCIATED AND OTHER COOPERATING INSTITUTIONS AND ORGANIZATIONS

In addition to the University's own Research and Training Centres and Programmes which are in operation or are being established, the University also continues to implement its work through networks of participating scholars and scientists at its associated institutions and other cooperating institutions and organizations throughout the world. Such networks and institutional relationships enable the UNU to carry out its global mandate, to draw on the academic and scientific capacities within the various cultures and geographical regions, and to have an effective impact in different parts of the world.