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United Nations Water Conference, 1977

THE UNITED NATIONS ORGANIZATIONS AND WATER

Briefing note for Resident Co-ordinators/Resident Representatives,
Country Representatives and Project Managers affiliated with individual
organizations

Prepared by the
Intersecretariat Group for Water
of the Administrative Committee on Co-ordination

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I. INTRODUCTION

1. This note has been prepared to give the Resident Co-ordinators/Resident Representatives a factual presentation of the involvement of the various organizations of the United Nations system in the field of water resources development and of their various arrangements for system-wide and sectoral co-ordination at the global and regional levels. This material may also be of use to the country and regional representatives of the specialized agencies of the United Nations; as well as to project managers and other experts affiliated with individual organizations.

2. The note has been prepared by the Interorganizational Co-operation Section of the Programme Planning and Co-ordination Office, Department of International Economic and Social Affairs, United Nations Secretariat, in its function as the secretariat of the Intersecretariat Group for Water of the Administrative Committee on Co-ordination. The text was agreed to by the organizations concerned at the third session of the Group, held at UNESCO Headquarters in Paris from 4 to 8 October 1982.

3. The membership of the Intersecretariat Group is as follows:

United Nations

Department of International Economic and Social Affairs
Department of Technical Co-operation for Development
Economic Commission for Europe
Economic Commission for Asia and the Pacific
Economic Commission for Latin America
Economic Commission for Africa
Economic Commission for Western Asia
Office of the United Nations Disaster Relief Co-ordinator
United Nations Industrial Development Organization
United Nations Environment Programme
United Nations Centre for Human Settlements
United Nations Children's Fund
United Nations Development Programme
World Food Programme

Specialized agencies

International Labour Organisation
Food and Agriculture Organization of the United Nations
United Nations Educational, Scientific and Cultural Organization
World Health Organization
World Meteorological Organization
World Bank and
International Fund for Agricultural Development

Other organizations

International Atomic Energy Agency

4. Section II of the note describes the essential components of the Mar del Plata Action Plan of the United Nations Water Conference, which provides the framework for the activities of the organizations in the field of water resources development. Annex I summarizes the essential components of the Action Plan. Section III presents an overview of the nature and type of involvement of the various organizations of the system in the field of water resources development. A more detailed description of the nature and scope of the activities carried out by each organization, as well as of typical projects executed since 1971, is contained in annex II. Section IV discusses the various arrangements for international co-operation at the global, regional and sectoral levels. Further details concerning these arrangements are given in annex III.

5. It may be recalled that in June 1981, Inspector J. C. Rodriguez-Arias of the Joint Inspection Unit, issued a guide to agencies and offices of the United Nations system active in the water field (JIU/NOTE/81/1). The material contained in annex II below updates and supplements the information contained in the Inspector's guide.

II. MAR DEL PLATA ACTION PLAN

6. It is well known that water resources development is an indispensable and integral component of national economic and social development. Because of the many and complex aspects involved, water resources development, of necessity, must be carried out in a variety of contexts involving numerous disciplines, from the physical sciences and engineering to economics and other social sciences.

7. Within the framework of national development planning, water projects are often designed and carried out to serve multiple objectives, such as increasing national output; promoting regional development; re-distributing income; creating employment opportunities; and improving and protecting the environment. These objectives are fulfilled through the use, development and management of water for various purposes. These include irrigation and drainage, domestic water supply and sanitation, industry, hydropower, inland navigation and other in-stream uses. The comprehensive development of water resources cannot be effectively planned and implemented without an adequate data base on the resource itself and its use; appropriate planning and development policies and administrative frameworks; financial and cost recovery policies; properly trained manpower; and research.

8. The integrated planning and development of water resources was the main theme of the United Nations Water Conference held at Mar del Plata, Argentina, in 1977, and the concern is generally reflected throughout the Mar del Plata

Action Plan adopted by the Conference.^{1/} The Action Plan contains a set of resolutions and recommendations on a wide spectrum of activities in the field of water resources development, covering such aspects as assessment of water resources; use and efficiency in the development and use for sectoral purposes; environment, health, and pollution control; policy, planning, administration and institutional aspects; education, training and research; natural hazards; and regional and international co-operation (see annex I).

9. The Action Plan stresses the primary importance of action at the national level. To this effect, in its resolution VIII, entitled, "Institutional arrangements for international co-operation in the water sector", the Conference called the UNDP Resident Co-ordinators/Resident Representatives to take the leadership role in intensifying the co-ordination of projects and programmes undertaken by organizations of the United Nations system at the request of Governments of developing countries.

III. NATURE AND INTERRELATIONSHIP OF THE ACTIVITIES OF THE ORGANIZATIONS OF THE UNITED NATIONS SYSTEM IN WATER RESOURCES DEVELOPMENT

10. The activities of the United Nations system of organizations in the field of water resources development are wide-ranging in scope and nature. Their involvement has grown during the past three decades, and continues to grow, both in terms of the magnitude and complexity of the problems addressed. System-wide technical co-operation activities for preinvestment studies account for 90 per cent of total expenditures in this field. The magnitude of this involvement can be appreciated from the fact that, in 1980, expenditures on technical co-operation activities, over the life of on-going projects amounted to some US\$325 million. In addition, an estimated sum of US\$27 million has been allocated for the period 1981-82 for activities supporting the technical co-operation programmes, including studies, reports, workshops, symposia, and seminars. World Bank loans and International Development Association credits for the 1979/80 fiscal year amounted to US\$1,575 million and US\$1,043 million, respectively.

11. Table 1 presents a general delineation of the interest of the organizations in the various development sectors classified under the following headings:

A. Common management functions

1. Water planning, policy, legislation and administration
2. Water resources assessment
3. Education and training

^{1/} See Report of the United Nations Water Conference, Mar del Plata, Argentina, 14-25 March 1977 (United Nations publication, Sales No. E.77.II.A.2), Chap. I.

Table 1

INVOLVEMENT OF THE ORGANIZATIONS OF THE UNITED NATIONS SYSTEM
IN WATER RESOURCES DEVELOPMENT: INDICATION OF MAIN AND
APPLIED AREAS OF INTEREST

Use and management areas	Organization(s) with Main Concern in Indicated Area	Organization(s) with Interest in Applied Aspects of Indicated Area
A. COMMON MANAGEMENT FUNCTIONS		
1. Water planning, policy legislation and administration (including river basin development planning)	UN/DTCO, FAO, UNDP, WB, ECA, ECE, ECLA, ECWA, ESCAP	UNESCO, WMO, WHO, UNEP, UNICEF, UNIDO, ILO, IAEA
2. Water resources assessment (Collection, processing, storage and dissemination of surface and ground water data), including the Application of Remote Sensing and Isotope Techniques	WMO, UNESCO, IAEA, FAO	UN/DTCO, WHO, UNDP, WB, ECA, ECE, ECLA, ECWA, ESCAP, UNEP
3. Education and training	UNESCO, ILO	All others
4. Water and human environment Water quality management and pollution control	UNEP	All others
5. Flood control (flood loss management)	UNDRO, WMO, ESCAP	UNDP, WB, FAO, UNESCO, UN/DTCO, ECA, ECE, ECLA, ECWA
6. Drought management (desertification control)	UNEP, FAO, UNESCO, ECWA	UN/DTCO, ECA, ECE, ECLA, ECWA, ESCAP, WMO, UNDP, WB, WFP, IPAD, UNDRO
7. Technical Co-operation among developing countries (TCDC)	UNDP	All others
B. DEVELOPMENT AND USE FOR SECTORAL PURPOSES		
1. Agriculture and fisheries (Irrigation and drainage; rainfed agriculture; fresh water fisheries; aqua-culture)	FAO, WB, WFP, IPAD	UNDP, UNESCO, WMO, ILO, UNDP, UNEP, UN/DTCO, ECA, ECE, ECLA, ECWA, ESCAP, IAEA
2. Community water supply and sanitation	WHO, WB, UNICEF, UNDP	FAO, UN/DTCO, ECA, ECE, ECLA, ECWA, ESCAP, UNEP, UNESCO, WMO, ILO, UNCHS
3. Ground water resources development (including exploration and well-drilling)	UN/DTCO, UNICEF, FAO, WHO, WB	ECA, ECE, ECLA, ECWA, ESCAP, UNESCO, WMO, IAEA, UNCHS
4. Industrial water use	UNIDO	WB, UN/DTCO, FAO, UNDP, ILO, ECWA, ECE
5. Inland navigation	ECE, ESCAP, ECLA, ECA, ECWA, UN/DTCO	WB, UNDP, ILO
6. Hydropower	WB, UNDP, UN/DTCO	FAO, WMO, UN/DTCO, ESCAP, ECWA, ECLA, ECA, UNIDO

4. Water and human environment
5. Flood control
6. Drought management
7. Technical co-operation among developing countries

B. Development and use for sectoral purposes

1. Agriculture and fisheries
2. Community water supply and sanitation
3. Ground water resources development
4. Industrial water use
5. Inland navigation
6. Hydropower

12. Because of the complex nature of the field of water resources, the above categories are not mutually exclusive. Rather, they are intended to illustrate as briefly as possible the nature and general interrelationships of the roles played by the organizations in each of these areas.

13. The first column of the table lists the organization(s) whose main concern lies in a given area of activity as classified above. The second column indicates those organizations participating in a given area in the applied sense, such as in the context of comprehensive development planning, and/or co-operating with the other organizations.

14. A further appreciation of the nature and complementarity of the activities of each organization can also be obtained from table 2. The matrices in this table identify the organizations concerned by the means of action they employ under the following three general categories:

(a) Technical co-operation (operational activities), including (1) project execution, (2) technical advisory services, and (3) training;

(b) Resources transfers in the form of financing (loans and grants).

(c) Supporting measures, realized mainly through the regular programmes of the organizations, including (1) studies and publications, (2) research, (3) conferences, seminars, symposia, workshops, etc.

IV. ARRANGEMENTS FOR INTER-ORGANIZATIONAL CO-OPERATION
AT THE GLOBAL, REGIONAL AND SECTORAL LEVELS

15. The organizations of the United Nations system have formal arrangements for co-operation and collaboration with each other in many programmes, including water, in order to further their respective roles and increase and ensure complementarity in their efforts to assist developing countries. As can be seen from the summaries in table 3, some of these arrangements are comprehensive in scope, spanning the entire field of water resources development, and involving system-wide co-ordination at the global and regional levels. Others are of a sectoral nature, and involve bilateral or multilateral collaboration within the framework of a particular aspect of water resources development. Further details on these arrangements for inter-organizational co-operation are given in annex III.

Table 2

INVOLVEMENT OF THE ORGANIZATIONS OF THE UNITED NATIONS SYSTEM
IN THE VARIOUS ASPECTS OF WATER RESOURCES DEVELOPMENT

Use and Management Areas	Technical Co-operation Activities			Resources Transfers a/	Supporting Measures		
	Project Execution	Technical Advisory Services	Training	Funding b/ (loans/grants)	Studies and Publications	Research	Meetings, Conferences Seminars Symposia Workshops
A. COMMON MANAGEMENT FUNCTIONS							
1. Planning and administration (water planning, policy, legislation and administration)	UN/DTCO, FAO, UNDP FAO, UNESCO	UN/DTCO, FAO, ESCAP ECLA	UN/DTCO, FAO UNDP, ESCAP, ECLA, UNEP, UNESCO	WB, UNDP	UN/DTCO, ECA, ECE, ECLA, ESCAP, ECWA, FAO	UN/DTCO, FAO, WB, ECA, ECE, ECLA, ECWA, ESCAP, UNESCO	UN/DTCO, FAO, WB ECA, ECE, ECLA, ECWA ESCAP, UNESCO
2. Water resources assessment (collection, processing storage and dissemination of atmospheric, surface and groundwater data and application of remote sensing techniques)	WMO, UNESCO IAEA, FAO	WMO, UNESCO IAEA, UN/DTCO, FAO, ESCAP, ECLA	UNESCO, WMO WB, IAEA	WB, UNDP	UNESCO, WMO, ESCAP, ECLA IAEA	UNESCO, WMO, ESCAP, ECLA, IAEA, UN/DTCO	UNESCO, WMO, ECE ECLA, ECWA, ESCAP IAEA, UN/DTCO
3. Education and training (institutions and curricula)	UNESCO, ILO	UNESCO, ILO	UNESCO, ILO	WB, UNDP	UNESCO, FAO ILO, WMO	UNESCO, ILO	UNESCO, WB, UN/DTCO, ESCAP, UNCHS, FAO, WMO
4. Water and human environment (water quality management and pollution control)	UNEP in co-operation with other organizations and governments	UNEP, ESCAP FAO, WB, WHO UNIDO	UNEP, ECLA ESCAP, ILO, WHO, UNIDO	UNEP, UNDP UNICEF, WB	UNEP, UNESCO FAO, WMO, ECE WHO, UNIDO	UNEP, UNESCO FAO, IAEA, WHO	UNEP, UNESCO, FAO WHO, WB, UNICEF, ECE ESCAP, ECLA, ECA ECWA, IAEA, UNCHS
5. Flood control (flood loss management)	UNDRO, WMO UNESCO, WB FAO	WHO, WB, UNESCO, UN/DTCO, UNDRO	WMO	WB, UNDP	UNDRO, WMO UNESCO, ESCAP WB	WMO, UNESCO ESCAP	WMO, UNESCO, ESCAP, UNDRO, ECE
6. Drought management (desertification control)	UNDRO, UNEP UNDP, UN/DTCO	UNEP, ESCAP FAO, UNDRO, UN/DTCO	UNEP, FAO UNDP	WB, UNDP UNEP	UNEP, FAO, WMO	UNEP, FAO UN/DTCO, ECWA, WMO	UNEP, FAO, UNDP, WMO ESCAP, ECE
7. Technical co-operation among Developing Countries (TCDC) c/	UNDP	UNDP, WHO	UNDP, WB IFAD, ILO	UNDP	All	All	All

a/ In addition to financing, resources are transferred in the form of food or equipment. Transfer in food takes place mainly through WFP.

b/ In addition to the financing made available through the channels shown in this column, limited funding is made available from extra-budgetary fund held in trust by other organizations individually or jointly with certain Government (s).

c/ Virtually all of the system's organizations are involved in promoting TCDC in the field of water resources. The Office for TCDC within UNDP has responsibilities for following up at the global level the Buenos Aires Action Plan on TCDC which includes water resources.

(continued)

Table 2 (continued)

Use and Management Areas	Technical Co-operation Activities			Resources Transfers a/	Supporting Measures		
	Project Execution	Technical Advisory Services	Training	Funding b/ (loans/grants)	Studies and Publications	Research	Meetings, Conferences Seminars Symposia Workshops
B. DEVELOPMENT AND USE FOR SECTORAL PURPOSES							
1. Agriculture and fisheries (irrigation and drainage; rainfed agriculture; fresh water fisheries; Aqua Culture)	FAO, WB UNDP	FAO, WB UNDP	FAO, WB, UNDP, ILO	WB, UNDP IFAD	FAO, WB, ECE ESCAP	FAO, WB	FAO, WB, UNDP, ILO ESCAP, ECWA
2. Community water supply and sanitation	WHO, UNDP, WB, UNICEF UN/DTC UNCHS	WHO, WB UNICEF, FAO UN/DTC, UNEP, ESCAP UNCHS	WHO, WB UNICEF UNDP, UNCHS ILO	WB, UNDP UNICEF	WHO, WB, UNDP UNICEF, UNCHS	WHO, WB UNICEF, UNCHS	WHO, WB, UNDP, UNICEF UN/DTC, ECA, ESCAP, ECE, ECLA, ECWA UNCHS
3. Ground water resources development (including exploration and well-drilling)	UN/DTC UNICEF, FAO WHO, WB	UN/DTC UNICEF, FAO WHO, WB, ESCAP	UN/DTC	UNICEF, WB	UN/DTC, UNICEF FAO, WHO, UNESCO WMO, ECA, ECE, ECLA, ECWA, ESCAP	ECWA	UN/DTC, UNICEF, FAO, WHO, UNESCO, WMO, ECA ECE, ECLA, ECWA, ESCAP, UNCHS
4. Industrial water use	UNIDO, WB	UNIDO, WB		WB, UNDP	UNIDO, ECE	UNIDO, ECE	UNIDO, UN/DTC, ECE, ECWA
5. Inland navigation		ESCAP, ECLA UN/DTC	ILO	WB	ESCAP, ECLA	ECLA	ESCAP, ECLA, ECWA, ECE
6. Hydropower	UN/DTC	FAO, WB, UNDP (OPE), UN/DTC		WB, UNDP	ESCAP		UN/DTC

a/ In addition to financing, resources are transferred in the form of food or equipment. Transfer in food takes place mainly through WFP.

b/ In addition to the financing made available through the channels shown in this column, limited funding is made available from extra-budgetary fund held in trust by other organizations individually or jointly with certain Government (s).

Table 3

ARRANGEMENTS FOR SYSTEM-WIDE (GLOBAL, REGIONAL) AND SECTORAL (BILATERAL OR MULTILATERAL) CO-OPERATION IN WATER RESOURCES DEVELOPMENT

Name	Scope	Organization involved	Terms of agreement or understanding
ACC Inter-Secretariat Group for Water	Over-all co-ordination in entire field of water	All organizations active in the water field (see list in para. 3)	1. Monitoring the Mar del Plata Action Plan 2. Promotion of joint planning and review of water-related programmes 3. Promotion of co-operation in the implementation of water-related activities at the country and regional levels
Steering Committee for Cooperative Action for the International Drinking Water Supply and Sanitation Decade	Co-ordinating of activities in community water supply and sanitation sector	WHO, UNDP, WB, UNICEF FAO, UNESCO, UN/IESA UN/DTCD, ILO, UNEP HABITAT (regional commissions also participate as observers)	Promoting co-operative action in the implementation of the goals and objectives of the Decade
Inter-Secretariat Meeting on Water Problems in Europe	Entire field of water	All organizations (governmental and non-governmental organizations) involved in water	Promoting inter-organizational co-operation in the field of water resources at the regional level.
Task Force on Water for Asia and the Pacific	Entire field of water	ESCAP, UN/DTCD, UNEP, UNICEF, UNIDO, UNDP, FAO WB, ILO, UNESCO, WHO, WMO	Promoting inter-organizational co-operation in the field of water resources at the regional level.
Inter-Secretariat Working Group on Water in Latin America	Entire field of water	ESCAP, UN/DTCD, UNEP, UNICEF, UNIDO, UNDP, FAO WB, ILO, UNESCO, WHO, WMO	Promoting inter-organizational co-operation in the field of water resources at the regional level.
Designated Officials for Environmental Matters (DOEM)	Co-ordination of system-wide activities in the field of environment including those related to water resources development	All organizations concerned	DOEM meets to promote inter-organizational co-operation
FAO/UN World Food Programme (WFP)	Supply food for projects promoting social and economic development, including irrigation	FAO and UN	Mobilize and distribute supplies and food for 1. Human resources development in child feeding; school lunch programmes 2. Infrastructure - irrigation, roads, etc. 3. Production, development of seeds and feed for livestock, etc. 4. Refugee resettlement
World Bank/FAO Co-operative Programme	Project identification and preparation for Investment in Agriculture	World Bank and FAO	Combining staff resources and experience in the identification and preparation of investment projects for World Bank financing; FAO part played through its Investment Center

(Continued)

Table 3 (continued)

Name	Scope	Organization involved	Terms of agreement or understanding
World Bank/UNESCO Co-operative Programme	Projection Identification and preparation for investment in the education sector	World Bank and UNESCO	Joint undertaking of evaluation missions and project preparation in the field of education
World Bank/WHO Working Agreement in Water Supply and Sanitation	Pre-investment activities relative to water supply, waste disposal, and storm drainage	WHO and WB	Joint undertaking of pre-investment studies and missions to developing countries of common membership
World Bank/UNIDO Co-operative Programme	Project identification and preparation of labour-intensive small-scale industries	WB and UNIDO	Joint studies and missions to evaluate and prepare projects, with special emphasis on support of employment-intensive, small-scale manufacturing and construction industries, including small-scale hydropower plants
World Bank/IFAD Working Agreement	Preparation and appraisal of agricultural and rural development projects	WB and IFAD	Assistance by World Bank in the preparation, appraisal, and supervision of projects for financing by IFAD or for co-financing by IFAD and the World Bank
UNESCO/WMO Working Agreement in the field of Hydrology	Long-term co-operation in the field of hydrology	UNESCO and WMO	<ol style="list-style-type: none"> 1. Maintain and develop collaboration throughout field of hydrology; 2. Establish close co-operation with their respective hydrology programmes (OHP of WMO, IHD of UNESCO) at global, regional and country levels
FAO/WMO Working Agreement in the field of hydrology and water resources	Hydrology and its application in agriculture	FAO and WMO	General division of responsibilities between the two organizations in collection and analysis of hydrological and meteorological data
WHO/FAO/UNEP Memorandum of understanding concerning water-borne diseases in agriculture water development	Establishes procedure for collaboration and joint action in prevention and control of water-borne diseases	FAO, WHO, UNEP provides for co-operation with others	<ol style="list-style-type: none"> 1. Hold meetings to examine programme of activities and identify measures; 2. Exchange of information, project data, country briefs (profiles); 3. Prepare guidelines and training.
FAO/WHO Memorandum of understanding concerning rural water supply and agricultural development	Training of rural extension workers and integration of rural water supply and sanitation in programmes of rural development.	FAO and WHO provides for co-operation with others	<ol style="list-style-type: none"> 1. Joint planning and implementation of projects involving domestic water supply and irrigation in rural areas; 2. Undertakes studies and training on the application of appropriate technology and benefits from rural water supply and sanitation
FAO/UNESCO Intersecretariat Arrangements in Hydrology and Water Resources	Programmes related to hydrology and water resources development	FAO, UNESCO	<ol style="list-style-type: none"> 1. Regular consultations to harmonize planning of programmes of work in common areas; 2. Exchange of advice and information in hydrology and water resources
UNIDO/UNEP Joint Committee	Co-ordination of work relating to industrial use of water and environmental aspects of industrial development	UNIDO and UNEP	Committee meets annually to co-ordinate activities

Annexes

Annex I

UNITED NATIONS WATER CONFERENCE
MAR DEL PLATA ACTION PLAN

Recommendations and resolutions by subject area

Assessment (R) <u>a/</u>	Use and efficiency	Environment and health	Policy and planning and management	Education and training and research	Natural hazards	Regional co-operation	International co-operation
1. Surface water	1. Instruments to improve efficiency	1. Environment and health	1. National policy instruments	1. Public information	1. Flood loss management	1. Shared water resources (R)	1. Technical co-operation (TODC) (R)
2. Ground- water	2. Efficiency and efficacy (regulation and distribution)	2. Pollution control	2. Institutional arrangements	2. Extension	2. Drought loss management (desertifi- cation) (R)	2. Specific regional recommendations	2. Research
3. Special techniques in hydrology	3. Demand (measurement and projection)		3. Legislation	3. Education			3. Financing
	4. Community (R)		4. Public participation	4. Training			4. Institutional arrangements (R)
	5. Agriculture (R)		5. Appropriate technology	5. Research			
	6. Fishery						
	7. Industry (R)						
	8. Hydropower						
	9. Inland navigation						

a/ (R) indicates the existence of a resolution on the subject area.

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Annex II

SCOPE AND NATURE OF WATER-RELATED ACTIVITIES OF ORGANIZATIONS
OF THE UNITED NATIONS SYSTEM AND EXAMPLES OF TYPICAL PROJECTS
EXECUTED SINCE 1971

A. United Nations

1. Department of International Economic and Social Affairs

1.1. The water programme of the Department of International Economic and Social Affairs involves the promotion of system-wide co-operation among the organizations of the United Nations system concerned with water resources development and management through systematic co-ordination and joint planning of activities. It also includes the gathering (through questionnaires or other means) and analysis of information and reporting thereon to the General Assembly and/or the Economic and Social Council through the Committee on Natural Resources. These activities are undertaken in connection with the review by the above-mentioned bodies of the progress made by Governments and by the organizations of the system in the implementation of the Mar del Plata Action Plan adopted by the United Nations Water Conference in 1977. The gathering and analysis of information as well as the preparation of reports are carried out in conjunction with the regional commissions, the specialized agencies, and other organizations concerned. These functions are carried out by the Interorganizational Co-operation Section, Programme Planning and Co-ordination Office of the Department of International Economic and Social Affairs, United Nations.

1.2. POCO/DIESA serves as Secretariat to the Intersecretariat Group for Water. This body is a co-ordinating mechanism for system-wide activities established by the Administrative Committee on Co-ordination in 1979 and subsequently noted by the Economic and Social Council. The Department has two professional staff members, who work full time on water-related activities. Other organizations provide supplementary assistance, as needed.

2. Department of Technical Co-operation for Development

(a) Scope and nature of water-related activities

2.1. The water activities of the Department of Technical Co-operation for Development come under the Water Resources Branch of the Division of Natural Resources and Energy (formerly the Centre for Natural Resources, Energy and Transport). The Branch functions under a broad mandate laid down by the United Nations Charter as well as by more specific resolutions of the General Assembly and the Economic and Social Council, including several deriving from the United Nations Water Conference. The bulk of the Department's programme is directed at technical co-operation activities involving operational projects in the field. Under its regular programme, the Department also has a capacity which it employs to undertake studies, publications, guidelines and other supporting measures such as the organization of conferences, seminars, and symposia. In this respect, the Department has produced some twenty significant publications ranging in scope from approaches to water planning,

water demand projection methods and international river basin management, to such technical issues as artificial recharge of ground water, flood management and approaches to water desalination. To back-stop its work, WRB has five regular programme posts at Headquarters. In addition, there are seven technical advisers in surface water, ground water and public works. It also has four interregional advisers, one in surface water, one in ground water, a drilling engineer and a public works specialist. Public works activities of the department also fall under the Water Resources Branch.

2.2. As a central organization with wide responsibilities, the Department takes a broad approach, such as assisting in water policy, planning and management, both for surface and ground water resources.

2.3. Most of the work is devoted to operational projects, at the request of Governments, with a combined financial allocation of some \$40 million in 1981-1982 for projects in all developing regions. The projects cover such areas as establishment of national water resources institutions, ground water exploration and development, planning of combined surface and ground water development, and river basin development; and they involve resources assessment, water supply and demand management for different uses, various technological and economic studies and research, training and promotion of TCDC. Section B below presents a more detailed description of typical projects carried out by the Department.

2.4. The non-operational activities, not tied to specific field projects, include the collection, review and publication of information on technical, legal and economic approaches to water resources development and management, as well as the organization of international conferences, symposia and seminars, such as an interregional colloquium on technical co-operation among developing countries for the exploration and development of ground water resources to be held in Yugoslavia in March 1983. Financing for such activities is derived mainly from the regular programme and/or extrabudgetary sources such as UNDP and Governments.

(b) Typical projects executed by DTCD since 1971

2.5. Ground water projects of the Department can be grouped in four broad categories: surveys and assessment of ground water resources; organization of ground water services, training and transfer of technology; ground water development; and definition of water resources policy and planning. Most projects have elements of most, if not all, of the following objectives: (a) to provide the data base necessary for the design of development projects through ground water surveys and assessment; (b) to organize and strengthen government services dealing with ground water resources; (c) to carry out emergency well-drilling operations in response to disaster events; (d) to carry out pilot ground water development projects for demonstration purposes as part of prefeasibility studies; (e) to transfer knowledge and technology for ground water exploration and development, such as new drilling and prospection methods, mathematical modelling, and artificial recharge; (f) to provide equipment for ground water exploration and development, such as hydrological and geophysical instruments, laboratory apparatus, well drilling rigs, compressors and vehicles; (g) to promote planning and policy making for ground water development; and (h) to train personnel at all levels including skilled workers, technicians, scientists, engineers and managers.

Implementation of these objectives may be found in the following projects: Groundwater Exploration and Development in Mali (MLI-76-004); Water Policy Management and Legislation in Liberia (LIR-77-004); Artificial Recharge Studies in India (IND-78-033); and Strengthening of Ground Water Services in Haiti (HAI-79-001).

2.6. The Department's surface water projects are designed to support the planning, development and management of these resources. They include the elaboration of comprehensive and integrated basin-wide development plans and related feasibility studies through: co-operation in instituting an integrated and comprehensive approach towards water policy formulation and management, including related economic, legal and institutional aspects; support in creating or strengthening applied research and engineering design institutes for surface and ground water, hydraulics and coastal engineering, including the provision of an administrative infrastructure, as well as for institutes of water economics, legislation, planning and administration; co-operation in the development of centralized water resources data banks including the use of computers, for the storage and retrieval of standardized data on the supply and demand for surface and ground water resources; application of advanced technologies in the management of the various sectoral areas pertaining to river basin development (such as flood loss management, water quality management, and efficient use of water for different consumer categories). Taking into account its experience in the management of international water resources, the Department has been requested by the Economic and Social Council to act as the focal point within the system for information on international river basin organizations. Examples of the types of projects are: Integrated Development of the Gambia River Basin (RAF-74-082); National Water Resources Master Plan in Malawi (MLW-79-015); Pre-investment study of four dams in Viet Nam (SRV-76-003); and Development of a Coastal Engineering Centre in India (IND-76-001).

3. Economic Commission for Europe

3.1. ECE has a well-established machinery for promoting co-operation among its Member Governments. The formal actions of the Commission are decided upon through annual meetings of its Committee on Water Problems (thirteenth session in 1981). The Committee has oriented its programme to take into account and follow-up the Water Conference as appropriate for the region. The Committee draws on reports and recommendations of its Group of Experts on Aspects of Water Quality and Quantity (tenth session in 1982), special meetings, seminars and studies included in its programme. ECE has a water Unit with two professional posts in its Environment and Human Settlements Division and, most importantly, a well developed system of rapporteurs supplied by Governments at no cost to the Commission. There is also an annual Intersecretariat meeting on Water Problems in Europe (twentieth session in April 1981).

3.2. The programme of work includes for 1982-1986, three major components: (a) overall management and planning of water resources (with five elements and five sub-elements); (b) rational use of water resources (with six elements, and (c) water pollution control, including transboundary pollution (with eight elements and two sub-elements). In April 1980, the Commission adopted the "ECE Declaration of Policy on Prevention and Control of Water Pollution, Including Transboundary Pollution", and subsequently an ad hoc meeting on Monitoring and

Evaluation of Transboundary Water Pollution was held on 14-15 May 1981. This meeting elaborated terms of reference of a programme on monitoring and evaluation of transboundary water pollution, which were endorsed by the Committee on Water Problems at its thirteenth session (November 1981). Work is under way on a Declaration on the Rational Use of Water Resources. The Seminar on Drinking Water Supply and Effluent Disposal Systems was held in October 1982 in Portugal, as a regional contribution to the International Drinking Water Supply and Sanitation Decade. While ECE is not engaged in operational water projects, it does generate contacts among Governments to improve international co-operation and it proceeds with a large exchange of information, and experience in a variety of subjects of common interest to member countries.

4. Economic and Social Commission for Asia and the Pacific

4.1. ESCAP has a long history of activities in water resources, focussing in the earlier years on flood control problems, broadened later on to encompass practically all aspects of water resources. Results are widely distributed through United Nations sales publications, in the "Water Resources Series" (known until 1963 as "Flood Control Series"), with No. 1 appearing in 1951 and currently up to No. 55. Since 1952, ESCAP has also published a quarterly "Water Resources Journal". The publications cover a variety of studies as well as proceedings of conferences, inter-governmental committee sessions, symposia and seminars.

4.2. The activities of the Commission in this field are formulated by the ESCAP Committee on Natural Resources which meets annually and devotes every third session to water (its intervening ones being mainly devoted to energy and minerals, respectively). In co-operation with WMO, ESCAP established the Typhoon Committee and the WMO/ESCAP Panel on Tropical Cyclones to mitigate flood damage caused by tropical cyclones. These have their own secretariats (in Manila and Colombo, respectively) and receive UNDP and other extrabudgetary support with ESCAP providing administrative and technical support. ESCAP was a prime mover behind the Lower Mekong River Basin development, a precedent for international river basin co-operation.

4.3. Work is centred in the Water Resources Section of the ESCAP Natural Resources Division, which had for its origin the ECAFE Bureau of Flood Control. The Section has seven regular programme posts, a regional adviser, and for 1980-81 a regular budget of US\$826,000. Perhaps more significantly, ESCAP has managed to line up considerable bilateral and multilateral support, and government expert contributions for studies (many submitted to the Committee), expert group meetings on data systems in 1978, water use data in 1979, water pricing in 1980 and improvement of efficiency of irrigation projects in 1981), a roving seminar in 1976 on the use of computers in hydrology and water resources planning, and various other seminars, workshops and study tours. ESCAP co-operates closely with other organizations of the System: for example, with UNESCO and WMO on hydrology; with FAO on irrigation; with UNEP on symposia on development of deltaic areas; with WHO on water supply and sanitation and with WMO, UNDRO and the League of Red Cross Societies on typhoons and tropical cyclones. It organizes an Interagency Task Force on Water for Asia and the Pacific, which has held eight sessions since its inaugural session in September 1978. It also plays a role in operational

activities. It may be noted that an ESCAP regional adviser assisted many Governments in the region in completing the questionnaire on government implementation of the Mar del Plata Action Plan in connexion with the global review of the Action Plan in 1981.

5. Economic Commission for Latin America

(a) Scope and nature of water-related activities

5.1. In 1979, the Economic Commission for Latin America, by its resolution 411(XVII), annex 1, decided to entrust the permanent responsibility for the promotion of the implementation in Latin America of the Mar del Plata Action Plan on Water to a Sessional Committee of the Commission. The Committee's tasks include: (a) reviewing relevant aspects of the work carried out and planned in the various water programmes of the United Nations system and other international organizations in the ECLA region; (b) encouraging and undertaking research to improve knowledge of water resources and the possibilities of developing them; (c) encouraging and conducting training activities on topics related to water resources.

5.2. By the same resolution it was decided to establish a permanent Water Resources Unit within the ECLA secretariat to act as a focal point for all activities in the region. More specifically, the Water Unit will undertake activities with the following objectives: (a) to support all efforts by Governments for the development and sound use of water resources; (b) to facilitate inter-country co-operation; (c) to improve co-ordination of water-related activities being carried out by the United Nations specialized agencies and other global or regional agencies; (d) to ensure, within the general aims set out above, the implementation of the recommendations of the Mar del Plata Action Plan.

5.3. At present, the work of the Water Resources Unit located within the Division of Natural Resources places emphasis on the following programme areas: (a) the review of progress in the region in the application of the Mar del Plata Action Plan; (b) the review and co-ordination of the relevant aspects of the regional activities of the international organizations; (c) the identification of suitable areas for technical co-operation among developing countries (TCDC) and the promotion of such co-operation; (d) support of the activities of Governments to incorporate the environmental dimension into water resource management; and (e) support of the activities of PAHO/WHO and of Governments related to the International Drinking Water Supply and Sanitation Decade. The current personnel strength is three regular programme posts and one regional adviser.

(b) Typical projects executed by ECLA

5.4. Typical products and kinds of projects carried out include: (a) preparation of a survey and production of a report on the actual situation in, and future prospects for, the utilization of the water resources of Latin America (Regional Report, Cuadernos de la CEPAL, Santiago, Chile, 1977); (b) the organization of seminars of experts such as those recently convened on Horizontal Co-operation for the International Drinking Water Supply and Sanitation Decade (E/CEPAL/G.1171 and E/CEPAL/G.1199); (c) preparation of reports on research projects similar to that produced on the relationship

between the use of water and the environment (Water Management and Environment in Latin America, Water Development, Supply and Management, Volume 12 (Pergamon Press Oxford, England, 1979); and (d) the provision of advisory services to the Governments of the region.

6. Economic Commission for Africa

6.1. Within its water resources programme, ECA concentrates its efforts on the priority needs of the African region as a follow-up to the Mar del Plata Action plan which in turn is carried out within the context of the Lagos Plan of Action. These activities are carried out by the Water Resources Unit, located within the Natural Resources Division of the Commission. Present staffing of the Unit consists of three professional posts. The Commission's work is carried out in co-operation and consultation with other organizations of the United Nations system, such as: WHO, WMO, UNEP, UNESCO, FAO and the World Bank. It also works in close consultation with the Organization of African Unity.

6.2. Drinking water supply and sanitation is one of the major components of the Commission's work. The Commission is involved in the follow-up of the progress made by Member States towards attaining the targets of the International Drinking Water Supply and Sanitation Decade. Presently, it is in the process of preparing a report based on case studies, designed to promote the development and application of appropriate village-level technology for water supply and sanitation, and to promote technical co-operation among African States. Assistance is being given to Governments of the region in overcoming difficulties encountered in their endeavours.

6.3. ECA's activities also touch upon surface and ground resources assessment. On groundwater, the work of the Commission aims at assisting member countries in the exploration and development of these resources, and at strengthening their related institutional and manpower needs. On surface water, ECA jointly with WMO is executing a project on planning and development of hydrometeorological networks and related services in Africa, aimed at strengthening national hydrological services and networks and promoting inter-country co-operation on assessment of data on surface water resources and on river system operation and management.

6.4. With regard to water for agriculture, the secretariat is working on the preparation of a survey of land and water resources potential for irrigation. The first phase of the survey, completed in 1980, made a preliminary assessment of existing and potential irrigation schemes. Subsequent phases have aimed at assisting individual countries in the identification, planning, improvement and rationalization of irrigation projects, and in the strengthening of national irrigation services.

6.5. With regard to the promotion of co-operation in the development of shared water resources, ECA envisages providing logistic support in the form of financing of studies or of training programmes for subregional intergovernmental organizations, such as the Organisation pour la mise en Valeur du Fleuve Senegal (OMVS), Organisation pour la mise en Valeur du Fleuve Gambie (OMVG), and Comitté Inter-Etats pour la lute Contre la Sechérese au Sahel (CILSS), Mano River Union, the Lake Chad Basin Commission and the Niger Basin Authority. It is also making efforts to promote co-operation among the

riparian countries of Lakes Tanganyika/Kivu basin, with a view to establishing a basin organization. Assistance is given to the Governments of Ethiopia and Kenya in connexion with their joint programme for the multi-purpose development of the Dawa Sub-basin, as well as to the riparian countries of the Kagera basin in the study of the environmental and health aspects of its integrated development.

6.6. ECA periodically convenes seminars and study tours on various issues of water resources development. For instance, a regional meeting on Problems and Needs of Africa in Community Water Supply and Sanitation was held in August 1980. The meeting considered various issues such as investment and manpower needs; institutional problems, environment and health aspects. It examined the degree of preparedness by countries in the formulation of programmes for the drinking water supply and sanitation sectors and drew up recommendations for further action during the International Drinking Water Supply and Sanitation Decade. A seminar and study tour on problems of water resources development in arid zones was also held in the USSR in June/July 1981. The seminar covered theoretical and applied methods and techniques for various aspects of water resources development and management, including assessment of water resources, irrigation and drainage, regional co-operation on shared water resources, manpower training, research, and environmental protection.

7. Economic Commission for Western Asia

7.1. ECWA followed up the Water Conference, and the regional recommendations to and from the Water Conference, with a second regional meeting. Following the recommendations of the Commission in 1980, the secretariat is now making efforts to establish a Regional Water Resources Council. Some Member States have already expressed their willingness to participate in the Council. It is envisaged that in 1983 the Council will be functioning effectively and will constitute a forum for co-ordinating efforts of the regional organizations and bodies active in the field of water resources.

7.2. The main problems of the ECWA region concern the arid to semi-arid climate giving rise to critical limitations in the supply of water to meet the full demand for domestic, agricultural, industrial and other uses. Misuse, waste and underdevelopment of the resources seriously limit the capability of the area to achieve optimum social and economic growth as well as food production. The majority of the population still lacks adequate water supply and sanitary services. A collective inter-country approach has been limited and no effective regional machinery exists for this purpose.

7.3. Accordingly, the general objectives of ECWA's water programmes are oriented toward promoting and intensifying regional co-operation in order to conserve, develop and use the water resources in the most efficient and economic manner. In this regard, appropriate level of emphasis is placed on non-conventional water resources. ECWA also follows up on the activities undertaken in the region for the International Drinking Water Supply and Sanitation Decade.

7.4. ECWA is presently engaged in a number of activities such as survey of areas for regional co-operation and setting up institutions for this purpose, promoting technical co-operation in the field of water resources development, and providing assistance for the assessment of water resources of the countries of the region. These activities are expected to be consolidated and

supplemented with additional studies. The latter would cover the areas of institutional arrangements, community water supply and sanitation, reuse and non-conventional sources of supply, national water policies, research and training programmes and technical co-operation among member countries.

7.5. Under its current programme (1982-1983), ECWA has provision for three professional staff members within its water programme, which is located within the Commission's Natural Resources, Science and Technology Division, with a current budget of US\$452,680.

7.6. The means for implementation include: (a) promotion of technical co-operation; (b) dissemination and exchange of information to and among countries of the region; (c) carrying out surveys on the availability of water resources and development of guidelines for their efficient use; (d) promotion of institutional arrangements for water planning and management at subregional and regional levels; and (e) seminars on selected problems affecting water resources development in the ECWA region.

8. Office of the United Nations Disaster Relief Co-ordinator

8.1. UNDRO's main activities in the field of water are centred on the mobilization and co-ordination of international relief assistance in cases of disaster (such as floods, storm surges, landslides and mudflows), and on promoting the study, prevention and control of disasters. In addition, UNDRO provides technical assistance in disaster preparedness and prevention at the request of the Governments of disaster-prone countries.

8.2. The work relating to relief operations and to disaster preparedness comes under the Relief Co-ordination and Preparedness Branch which has a staff of 11 professionals. Flood relief assistance constitutes about 45 per cent of UNDRO's annual emergency allocation. From 1977 to 1981 the Office was engaged in co-ordinating relief following 79 disasters, of which 35 were floods. One of the largest relief operations was co-ordination of assistance to the People's Republic of China following flood and drought that struck Hebei and Hubei provinces in 1980. More than \$20 million worth of aid was mobilized.

8.3. Disaster preparedness has been prompted through UNDRO's technical co-operation programme, which is usually financed from UNDRO's Trust Fund or from other external sources. Disaster preparedness projects cover such areas as establishment of forecasting and warning systems, setting up of national, regional and local relief organizations, formulation of rescue and relief plans, stockpiling of rescue and relief supplies, and training of personnel. Preparedness for water related disasters, mainly for floods is given high priority. In 1980-1981 alone, technical assistance involving consultancies of two to six months in disaster preparedness, with great emphasis on flood preparedness, was provided to four countries. Disaster preparedness is also promoted through seminars and workshops on pre-disaster planning and related subjects.

8.4. Most of the work devoted to disaster prevention in general, and to prevention of water related disasters in particular, is concentrated within the Prevention and Support Services Branch. Its staff consists of 8 professionals, including one specialist on water matters. Disaster prevention concerns the formulation and implementation of long range policies and programmes to prevent or eliminate the occurrence of disaster. This includes

legislation and regulatory measures, principally worked out on the basis of risk evaluation and vulnerability analysis as well as engineering works designed to avert or withstand disaster. UNDR0 has been promoting the incorporation of vulnerability analysis into economic and physical planning processes as well as direct preventive measures. This has been done through studies, technical co-operation projects, seminars, fellowships and publications. As an example of the promotion of the prevention of water related disasters, reference can be made to a joint UNDR0/UNCHS project on reconstruction and flood protection of various villages in Upper Egypt. Flood risk zoning and vulnerability analysis were integrated into the plan for reconstruction and flood prevention.

8.5. The following types of projects may also be mentioned as additional examples of UNDR0's recent activities in the field of prevention of, and preparedness for, water-related disasters: (a) disaster prevention and preparedness in the Yemen Arab Republic (1975-1976), Sudan (1976-1977), Somalia (1980-1981), Tanzania (1981), and Romania (1977); (b) composite vulnerability analysis - a methodology and case study of the Metro Manila Area, Philippines (1976-1977); and (c) Regional project for planning the prevention of natural disasters involving Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua (1977-1978).

9. United Nations Industrial Development Organization

(a) Scope and nature of water-related activities

9.1. UNIDO's activities cover inter alia the repair, maintenance and manufacturing of different domestic types of equipment related to water development and use, including water supplies, irrigation and distribution, mini-hydro plants; industrial water use practices, including reuse and recycling and the treatment of waste water. Many of these activities are planned in co-operation with the United Nations Environment Programme (with which a Joint Committee has been established) and other organizations in the system.

9.2. Assistance is provided to several countries in such areas as:

(a) development of control systems for the reduction and abatement of water wastes through the installation of different waste water treatment technologies: primary, secondary and tertiary treatment with biological and physical/chemical processes; (b) establishment of water-monitoring systems; (c) environmental legislation and standards for water wastes; and (d) development of low, and non-waste technology in recycling wastes produced by industries.

(b) Typical of projects executed by UNIDO

9.3. With respect to technical assistance, the types of projects carried out by UNIDO cover (a) Irrigation technology (Africa, regional, RAF/80/015; Senegal, SEN/78/014); (b) Air and water pollution control (Hong Kong, DP/HOK/80/001; Upper Volta, SI/UPV/79/803; Yugoslavia, DP/YUG/78/006); (c) Industrial pollution control/effluent treatment control (Africa, regional, TS/RAF/78/023; Upper Volta, 320UPV); (d) Water pumping/windmill technology (Ethiopia, ETH/77/013; Kenya, KEN/75/010; Somalia, SOM/78/191); and (e) Mini-hydropower equipment (Latin America, regional, RLA/79/802; Ecuador, ECU/79/801; Uruguay, UFU/79/806).

9.4. In the programme carried out by the Division of Industrial Studies (DIS) of UNIDO, consideration has been given to various aspects of water use and treatment practices, particularly in studies related to leather and leather products, pharmaceuticals, agro-industries, petrochemicals, vegetable oils and fats and fertilizers, iron and steel and pulp and paper industries. Industrial water use and treatment practices has recently been established as a separate programme element within DIS.

9.5. UNIDO has also provided inputs to several UNEP studies and assessments. For example, UNIDO participated in the assessment of pollutants from land-based sources into the Mediterranean Sea; in the study of marine pollution in the Caribbean sea; the study of marine pollutants from industrial sources in the West African region, and a preliminary study of a similar nature in the East Africa region.

10. United Nations Environment Programme

10.1. Since its creation in 1972, UNEP has been active in the promotion of environmental protection and improvement within the framework of the Stockholm Plan of Action for Human Environment. Obviously this includes considerations for integrating environmental factors in the development and management of water resources. Nevertheless, since UNEP deals with the broad question of environmental protection and improvement, it is somewhat difficult to disentangle water activities and the expenditures, particularly since the budget and organizational aspects are not broken down in this manner. Environmental questions related to water are dealt with in part by the Environmental Management Services. A Soil and Water Task Force within that Division co-ordinates UNEP's water-related activities.

10.2. It may be recalled that the 1972 Environment Conference declaration and action plan dealt with various aspects of water. To this were added environmental components stemming from the United Nations Water Conference Action Plan and from the Desertification Conference Action Plan. In response to the latter, a Desertification Unit has been established within UNEP. Furthermore, UNEP was charged by the General Assembly in 1973 with developing standards for the co-operative and harmonious exploitation of natural resources shared by two or more States, including shared water resources (mainly international rivers and lakes). A working group prepared 15 "draft principles" which were commended as guidelines by General Assembly resolution 34/186. The implementation of these principles is being followed up by UNEP.

10.3. Water is an element in the UNEP sub-programme "terrestrial ecosystems". The activities consist of assessment of pollution and environmental impact, demonstration projects, environmental protection, dissemination of public information, research and development, training in water resources management, etc. The Global Environmental Monitoring System (GEMS), natural disasters, and supporting measures, also include components relevant to water.

10.4. In 1981-1982 budgetary allocations for "non-operational activities" in "water", amounted to about US\$3.99 million, covering such activities as training courses in the USSR on environmentally sound management and utilization of river basins (US\$358,000); and protection of the lithosphere, carried out in co-operation with UNESCO, UNEP/COM and the USSR Academy of Sciences (US\$779,000). Earmarkings also include support to (a) the International Training Centre for Water Resources Management (CEFIGRE) in

France (US\$508,000); (b) environmental aspects of large dams (US\$78,000); (c) integrated irrigation demonstration projects in Swaziland (US\$275,000); and (d) ecosystems dynamics in freshwater wetlands and shallow water bodies (US\$324,000). Other activities include monitoring of water-related health parameters rain and storm water harvesting, eutrophication and provision of support related to the Mekong, Euphrates and Upper Nile basins on environmental aspects. Several studies are related to field projects and mostly executed in co-operation with other United Nations organizations such as UNDP, UNICEF, WMO, FAO, and WHO.

11. United Nations Centre for Human Settlements

(a) Scope and nature of water-related activities

11.1. UNCHS is developing its approach to human settlements under three headings: settlements planning and policies, shelter and community services and, building and infrastructure technology. In the field of building and infrastructure technology, UNCHS' activities consider building materials, the construction sector, water supply, sanitation, waste disposal, roads, transportation and energy. The advent of the International Drinking Water Supply and Sanitation Decade and follow up activities to the Mar del Plata Action Plan has coincided with an increase in UNCHS' efforts to develop expertise in infrastructure in general and water supply and sanitation in particular. UNCHS capability for assisting with water supply and sanitation aspects of human settlements is now greatly enhanced and its activities directed under the premise that improvements in the provision of water supply and sanitation in low-income communities are related to other infrastructure components, shelter and community development.

(b) Typical projects executed by UNCHS

11.2. Based on the main orientation of its work, UNCHS has current research projects on appropriate water supply and sanitation services, standards and technologies for the upgrading of squatter and rural settlements. In order to evaluate appropriate technologies for the provision of water supply and sanitation in the context of human settlements development, UNCHS will carry out a number of pilot or demonstration projects, using its running technical co-operation projects or in collaboration with other United Nations agencies. As far as human resources development and information services are concerned, practical training courses, seminars and regional workshops will be organized as part of UNCHS work programme in order to disseminate the results of its research activities and demonstration projects.

11.3. UNCHS has a substantial ongoing technical co-operation programme. Examples of projects that involve water supply and sanitation include those in Bhutan, Mozambique, Pakistan, and Angola. In the immediate future, it is proposed to increase the number of technical co-operation projects that include water supply and sanitation components, not with the intention of duplicating the extensive work conducted in this field by other agencies but to collect and evaluate experiences and then incorporate them into UNCHS programme of comprehensive community development.

12. United Nations Children's Fund

(a) Scope and nature of water-related activities

12.1. UNICEF is rapidly expanding its water-related activities, which are concentrated on community water supply and sanitation in rural and certain peri-urban areas. It is a major partner in the International Drinking Water Supply and Sanitation Decade.

12.2. In 1981, UNICEF assistance to water supply and sanitation programmes in 94 countries involved expenditures of more than \$45 million. UNICEF's work in this area is seen as a prerequisite for improving child and maternal health and for releasing women and children from the time-consuming, energy-sapping carrying of water. Most programmes in which UNICEF participates employ simple, low-cost technology and serve low-income rural or peri-urban communities. In recent years, special importance has been attached to linking sanitation and health education activities to water supply schemes. In April 1981, several UNICEF field staff and international specialists met to discuss the impact of water supply on health and the role of sanitation and health education in future and existing programmes. A further aim is to establish a basis for guidelines to strengthen the water supply, community motivation and education components of PHC. The meeting identified issues and formulated questions for future examination at regional and country levels. Several country offices were also identified where health education and sanitation activities can be intensified in existing and future programmes.

12.3. UNICEF now has over 100 technical project staff posted in the field. These work under the UNICEF field representatives, but receive certain backstopping from a Headquarters unit (WET) with five staff members with a background in geology, groundwater technology, engineering, health education and community participation. Operations are carried out in close collaboration with the other organizations in water supply and sanitation, inside and outside the United Nations system. Some 40 per cent of UNICEF's regular budget goes to water supply and sanitation and considerable contributions and funds-in-trust are mobilized from other sources.

12.4. The newsletter "From the UNICEF Waterfront" is published several times a year, and the subject is given much attention in various UNICEF publications, particularly with the "Decade" impetus.

(b) Typical projects executed by UNICEF since 1971

12.5. As stated above, UNICEF's activities encompass close to 100 countries. The following are examples of the types of projects covered.

12.6. In Pakistan, water supply and sanitation are becoming more of a component of basic services for children rather than a purely sectoral, public-works type of action. With the new approach towards area concentration and community involvement, drinking water supply schemes (and even sanitation schemes, as in rural Azad Kashmir and in Karachi) have become effective entry points for integrated basic services programmes. In Punjab, Baluchistan and northern areas, water has become the determining factor in selecting the areas for concentrated assistance from UNICEF. In 1981, an elaborate planning process identified these areas, selected the most appropriate technology, prepared the communities, set up the institutional framework and started

drawing up community-based operational plans for implementation during 1982-1986. An important feature of this new approach is the incorporation of "beneficiary" indicators into the planning/implementation/monitoring process through the established local bodies.

12.7. In Nigeria, a new and innovative programme was launched in Imo State. The programme begins with the sanitation component followed by water-well drilling and hand-pump installation components, after which the local population will have been fully involved. The Imo State drinking water and sanitation project is a community education-based effort involving hand-pump technology and government participation at four levels, from federal to community. UNICEF assistance has included laying the groundwork for parallel epidemiological and house-to-house water use surveys in the target areas; providing technical personnel as well as Nigerian and foreign consultants specializing in environmental sanitation, excreta disposal, training design, community mobilization, social anthropology, and water-borne disease epidemiology; establishing a heavy equipment workshop and maintenance yard in facilities made available by the state government; and providing two high-performance drilling rigs, along with the vehicles and varied hardware needed to support the rigs. Evaluation of the project may also break new ground: costs, cost benefits, disease reduction and child mortality will be charted by surveys comparing control populations and the two project "tracks". A "fast" track will devote relatively less time to mobilization, participation and training, and a "slow" track will concentrate on those areas and therefore embody the main concepts of the project.

12.8. In Malawi, a feasibility study of an integrated approach to rural water supplies was made in the Upper Livulezi Valley of Ntcheu District. This approach integrates five components of rural water supplies: protection of existing shallow wells; rehabilitation of existing boreholes; construction of newly dug wells; construction of shallow boreholes; and establishment of a maintenance structure for all water points. A related development, with UNICEF assistance, is the local design and production of two types of PVC hand pumps for the boreholes. Until recently, Malawi installed expensive imported hand-pump models, mainly the cast-iron types, which were extremely difficult to maintain. The maintenance costs of the imported hand-pump models are estimated at \$15,000 - about \$170 per pump per year. If the local pump project proves successful, it should enable communities to carry out their own maintenance, thus avoiding the high breakdown rates of the imported pumps.

B. Specialized agencies

13. International Labour Organisation

(a) Scope and nature of water-related activities

13.1. In pursuit of such objectives as development through basic needs, income distribution through employment, employment creation, and human resource development, the ILO undertakes certain water-related activities.

13.2. As part of its mandate, the Training Department undertakes to train managers, supervisors, technicians and workers; provide assistance to set up and co-ordinate interregional organizations dealing with management development

and vocational training and to develop training materials such as Modules of Employable Skills (MES) in the field of drinking water. While the departmental activities are spread over a wide range of sectors, its dealings in the water sector are quite significant.

13.3. Parallel to the Training Department, the ILO Co-operative Branch carried out similar activities within its programmes to provide assistance to co-operatives and other similar groups. The Branch's relevant activities are illustrated through its "self-help" projects which often include irrigation, and water supply and sanitation.

13.4. The special public works programme of the ILO assists Governments to procure funds and provide technical assistance for them, in order to implement development projects which employ labour-intensive technologies. Such projects are often comprised of irrigation, water supply, sanitation, flood control and soil/water conservation works. The on-going programme spends some US\$6 million per annum on water-related projects, which amounts to about 60 per cent of the total.

13.5. Within the Appropriate Technology programme, several country studies on irrigation technologies have been undertaken with a view to disseminating the expedient practices, particularly those containing a high proportion of labour-intensive methodologies.

13.6. The ILO provides information and undertakes education and training programmes in the field of occupational safety and health. Such activities, of course, cover those workers employed in the water resources development projects.

(b) Typical projects executed by ILO

13.7. Within the special public works, the following may be cited as indicative of the type of projects executed by ILO: (a) Nepal: hill irrigation programme, 30 separate projects each covering an extent between 50-1,000 ha, sum totalling 2,500 ha (US\$3.0 million); (b) Cape Verde: soil and river erosion control, construction of dykes and dry stone walls, and planting trees (US\$0.6 million); (c) Tanzania: water supply for 12 villages from nearby springs (US\$0.4 million); Ethiopia: two-year project in rural water supply operation and maintenance training programme (US\$0.2 million); Bangladesh: six-year project on low-lift pumps maintenance and training programme (US\$1.8 million); Tanzania: establishment of craft training programme for water supply personnel (preliminary study and formulation of project proposal); Benin: high-intensity public works programme, including wells, cisterns, and pipeline (US\$0.3 million); Upper Volta: high-intensity public works programme including well construction, pipeline (US\$0.4 million); Uganda: crash employment programme, including well construction (US\$1.2 million); and Zaire: training and skill development of personnel (US\$1.2 million).

13.8. Projects in occupational safety and health include the provision of information through the International Occupational Safety and Health Information Centre; and production of publications dealing with occupational safety and health aspects associated with irrigation and civil engineering works.

13.9. In the area of human resources development, ILO activities cover (a) setting up of training centres and co-ordinating the activities of these centres; (b) preparation of training materials (when appropriate, the modules of employable skills approach is adopted); (c) provision of formal and informal training through workshops, seminars, training courses, and apprenticeships; (d) designing and reviewing of management systems and provision of consultancy services; and (e) undertaking training needs assessments.

13.10. ILO now follows a new approach of Modules of Employable Skills (MES), developed as a result of ten years of research on modular training systems, covering all industrial training occupations, including water supply. In 1981/1982, ILO provided several consultancy services to Algeria aimed at assisting in the identification and assessment of existing training facilities and training needs at all levels in the fields of drinking water, irrigation and industrial water.

14. Food and Agriculture Organization of the United Nations

(a) Nature and scope of water-related activities

14.1. FAO is a major water use sector agency with activities in most aspects of water resources development and conservation, including a variety of co-operative programmes. Water is, of course, basic to agriculture which accounts for some 80 per cent of water consumption. It is also a key element in FAO's fisheries and forestry activities.

14.2. The regular programme activities include general surveys and programmes of systematic collection and processing of information; research and studies; publications; conferences; working parties; seminars and training courses in the different programme areas. There are also extensive technical and financial assistance activities in the field.

14.3. Expenditures in 1980-81 for water-related activities totalled US\$6.9 million from the regular budget plus US\$6.0 million from extrabudgetary sources for the regular programme. Financial allocations (mostly from UNDP and trust funds) for relevant field projects amounted to US\$39 million. The details appear in the FAO Programme of Work and Budget, in which the Major Programme, "Agriculture" has three sub-programmes under the heading of Natural Resources, with US\$2.3 million plus US\$1.9 million for the regular programme and US\$24 million for corresponding field projects. The three cover assessment and planning; water development and management; conservation and reclamation.

14.4. Under the Major Programme "Fisheries", the sub-programme Inland Water Resources and Aquaculture has US\$1,232,000 plus US\$120,000 in the regular programme and US\$9 million for corresponding field projects; it includes pollution control and many publications are produced under this programme. The Major Programme "Forestry", sub-programme Conservation and Wildlife has US\$134,000 in the regular programme and nearly US\$6 million in field projects dealing with watershed management, erosion and sediment control, and soil and water conservation.

14.5. Major Programme "Legal", has US\$170,000 in the regular budget and US\$150,000 in the field project budget devoted to collection and dissemination of information on water legislation; legal studies and guidelines; organizing training activities; and assisting governments and river basin committees in drafting water laws and regulations. Major Programme "Investment", covers the Investment Centre, for which the water part of its current regular programme biennium budget may be estimated at US\$3.2 million from FAO and US\$4.0 million from the World Bank. In 1978 and 1979, the FAO/World Bank Cooperative Programme resulted in financing approval of US\$1,731 million, with loan/credit components of US\$784.5 million for water development projects.

14.6. The above programmes are carried out through the Departments of Agriculture, Fisheries and Forestry, and the Legal Office. Water matters are perhaps most visible in the Land and Water Division of the Agriculture Department. That Division has some 16 officers dealing with various aspects of water resources. It also has a land and water development officer in each of four regional offices. There is also the affiliated WFP, which receives considerable back-stopping from FAO technical experts. Assistance to land and water development and conservation projects was estimated at some 50 per cent, or US\$375 million of the 1977-78 budget.

14.7. Altogether, FAO has 36 professionals at its headquarters and regional offices assigned on a permanent basis to water problems, plus about 120 in field projects on contracts for one year or more and 40 on consultancy contracts. FAO activities and staff are thus far more extensive than conveyed by expressions such as "Water for Agriculture".

(b) Typical projects executed by FAO, 1972-81

14.8. At the start of the past decade, there was a high proportion of projects for resources survey and for the planning and development of irrigation and drainage schemes. Assistance in resources survey is now carried out more through training and support to national institutions. There is still considerable emphasis on the assessment and use of ground water for agricultural development, illustrated by projects in Laos, Greece, Libya,, the Lake Chad Basin and the Near East Cooperative Project (TF-REM 508) Survey and Evaluation of Data on Shared Water Resources in the Gulf States and the Arabian Peninsula, completed in 1980.

14.9. The development projects continue, often incorporating feasibility studies. Examples are NIR/71/503, Investigation and Feasibility Study for Irrigation Development, South of Lake Chad, and Assistance to Irrigated Agriculture in Ethiopia (ETH 78-013), with its progressive identification, reconnaissance and pre-investment studies giving attention also to aspects of management, sociology, health, environment and ecology. The same concern for resources management is shown in the drainage and reclamation projects such as the Control of Waterlogging and Salinity, Egypt (EGY 73/048), and in the EMESIRE projects in Peru, Ecuador, Panama, for the Improvement of Existing Irrigation Schemes.

14.10. A very closely-related, expanding activity is the FAO International Support Programme to Irrigation Water Management, which has held workshops and seminars, and assisted national institutions in Indonesia, Malaysia, Pakistan, the Philippines and Thailand and other developing countries.

14.11. Recent large field projects include the Development of the San Francisco River Basin, Brazil (BRA 74/008), and the Investigation of the Okavango Delta as a Primary Water Resource for Botswana (BOT 71/506) which incorporated a hydro-ecological survey with concern for fisheries, wildlife, livestock and health implications of water development. There are also the ongoing Unilateral Trust Fund Projects in Libya (UTEN-LIB/004, 005, 006) which cover Land and Water Investigation; Gefara Plain Water Development Planning; and the Strengthening of the Agricultural Research Centre.

14.12. Research into irrigation and drainage continues to receive attention. The Near East Cooperative Programme Project for Applied Research for Land and Water Use relates particularly to arid and semi-arid zones. Others place emphasis on a particular crop. One of the latter is the Ahero Irrigation Research Station, Kenya, with rice as the primary crop. This concern with rice is increasing in Africa, as well as being a major activity in South-east Asia, with projects ranging from Rice Cultivation in Zanzibar (URT 73/24) to long-term collaboration with the West Africa Rice Development Association.

14.13. There is an increasing number of projects for improved watershed management and soil and water conservation through better forestry and agricultural practices. Another subject which has gained impetus is that of water lifting devices for agriculture. This has been the theme of recent regional workshops, the latest held in China (RAS 79/006), and it is expected to be a rapidly growing activity.

14.14. Finally, there is the FAO Technical Cooperation Programme (TCP), within the Regular Programme resources, intended to enable the rapid implementation of small but critical interventions at country level. It has served as a pilot to many larger projects by identifying and defining the lines of approach, as in Ethiopia for future irrigation studies; in Swaziland to help Government decide on multi-purpose hydropower and irrigation developments and in Malawi and the Peoples Democratic Republic of Yemen to assess the feasibility and cost of reclaiming flood-damaged irrigation schemes.

15. United Nations Educational, Scientific and Cultural Organization

(a) Scope and nature of water-related activities

15.1. UNESCO activities in the field of water, which have been developed since 1950, are focussed on the improvement of the capacity of the Member States to assess, plan and manage their water resources through the improvement and utilization of scientific knowledge concerning the water resources system itself and its relationship to human activities and the natural environment through the adequate training of specialized manpower and education of the general public.

15.2. The International Hydrological Programme (IHP) occupies a central place within the whole UNESCO water-related programme. The IHP is co-ordinated by an Intergovernmental Council which reports to the UNESCO General Conference. UNESCO's water resources programme builds on and largely operates through over 125 National Committees and national focal points for the IHP and also through co-operation with scientific and technical international non-governmental organizations.

15.3. The IHP is a long-term programme focussed on the scientific and educational aspects of hydrology and water resources management and based on an interdisciplinary approach to these aspects. The contents of each planning phase is determined by the General Conference of UNESCO following recommendations of the IHP Intergovernmental Council. Under the arrangements agreed between UNESCO and WMO, conferences are convened jointly by the two organizations in order to better harmonize their respective programmes in the field of water resources. In August 1981, the UNESCO/WMO International Conference on Hydrology and the Scientific Bases for the Rational Management of Water Resources adopted the outline plan of the third phase of the IHP (1984-1989).

15.4. The main responsibility for the execution of the programme, as determined by the General Conference with the advice of the Intergovernmental Council of the IHP, rests with the Division of Water Sciences. There are nine professionals in the Division and, in addition, six regional hydrologists and two associate experts (administratively included in the five UNESCO Regional Offices of Science and Technology), two water engineers in the Division of Operational Programmes and two other water resources specialists working in the Division of Ecological Sciences.

15.5. The total regular programme budget available to the Division of Water Sciences for the period 1981-1983 is about US\$6.8 million. In addition, funds are obtained from UN (UNDP and UNEP) sources (about US\$8 million), and from Funds-in-Trust (about US\$1.5 million). To this amount, a further US\$2 million should be added from the regular programme and US\$1 million from extra budgetary funds for water activities administered by other divisions of UNESCO, including relevant activities such as scientific information exchange and public information.

15.6. Within its Regular Programme, UNESCO:

- Stimulates and co-ordinates studies concerning the assessment, exploitation, conservation and management of water resources. This is done through the development of methodologies, the holding of symposia, the issuing of publications, etc. About one hundred specialists from all over the world co-operate in this effort.

- Promotes the development of education and training in the field of water sciences and water engineering. This activity results in guidance material for the training of specialists and technicians and in the actual training of approximately 300 specialists and technicians per year through courses organized or sponsored by UNESCO.

- Assists its Member States to increase their capacity to assess their water resources and manage, them in particular through the strengthening of their (applied) research and educational infrastructures.

- Promotes and supports technical co-operation among developing countries at the regional level. Since 1981, particular emphasis has been placed on the rational utilization and conservation of water resources in rural areas through its Major Regional Projects in Africa, the Arab States and Latin America and the Caribbean.

15.7. The field projects financed by extra budgetary funds are administered within the Science Sector of the UNESCO Secretariat by the Division of Operational Programmes (with five regional sections) in close co-operation with the Division of Water Sciences and the five Regional Offices of Science and Technology. Typically, these projects deal with applied research, education and training, assessment of water resources and institution building.

(b) Typical projects executed by UNESCO since 1971

Water resources assessment projects

15.8. The regional UNDP project in Algeria and Tunisia entitled "Study of the Groundwater Resources in the Northern Sahara" was completed in 1972. On the basis of a very thorough scientific study of the geology, hydrogeology, hydrology, topography, and pedology, of the 900,000 km² area of the project, the limits of the possibilities of exploitation of both the shallow and deep aquifers underlying the Northern Sahara were established. Although the study was basically concerned with hydrogeological assessment, the results of the study were presented in a form immediately and directly useful for the planning ministries. The IAEA and FAO co-operated in this project, FAO in particular, in aspects of relevance to agricultural development.

15.9. The UNDP supported project in Portugal, "Environmental Study of the Tejo Estuary" (1977-1982) is another kind of assessment project in which the quality aspects of water management rather than the quantities of water are important. This project forms the scientific bases on which the Government will base its pollution and environmental regulations and its decisions for investment in waste water purification works. The project will be followed up by a UNDP/WHO assisted sanitation oriented project.

15.10. Other water resources assessment projects have been executed in the Canary Islands, Spain, Brazil, Zambia and recently in Mozambique.

Applied Research Institution Building

15.11. Since 1974, UNESCO/UNDP has been assisting the Ministry of Irrigation of Sudan in the "Establishment of the Hydraulic Research Station, in Wad Medani". This Research Station is gradually becoming the water resources engineering study branch of the Ministry of Irrigation, able to execute hydrological surveys, hydraulic model studies and hydraulic computations.

15.12. Similar projects have been executed in (a) Porto Alegre, Brazil, with emphasis on high level training; (b) Roorkee, India, with emphasis on hydrology and (c) Ezeiza, Argentina, with emphasis on river and harbour engineering.

Water Resources Education Institution Building

15.13. Since 1978 a UNESCO/UNDP project (with the co-operation of WMO) has been assisting the Federal Ministry of Water Resources of Nigeria in the "Establishment of the Federal Institute of Water Resources, Kaduna". The Institute will later develop into a fully fledged water resources institute, but the assistance presently given is primarily in the setting-up of an educational programme for the training of middle-level water resources engineers which, at the moment, is given top priority in Nigeria.

15.14. Similar projects were executed in Brazil, Tanzania, India, etc., some with financial support through Funds-in-Trust projects. UNESCO also organizes numerous training courses of short duration at all levels, for example the SIDA supported regional training courses on Groundwater in Hard Rocks held in India (1979) and Tanzania (1981).

16. World Health Organization

(a) Scope and nature of water-related activities

16.1. WHO's interest in water-related activities stems mostly from the fact that clean water and adequate sanitation are intimately related to, and have a far-reaching impact on, human health. Over the past thirty years, the Organization has been engaged in the promotion of health through projects and programmes designed to provide better water supply conditions and adequate facilities for waste disposal and pollution control in most countries of the world.

16.2. As one of the main organizations concerned, WHO has been a spearhead for the International Drinking Water Supply and Sanitation Decade, launched in 1980 by the United Nations General Assembly. As indicated in section IV (B) above, through its Unit for Global Promotion and Co-operation for Water Supply and Sanitation, WHO provides the Secretariat for the Steering Committee for Co-operative Action for IDWSSD, composed of ten organizations of the United Nations system. It co-operates with member countries in helping them attain the goals and targets for the Decade. Further to the United Nations Conference on Human Settlements (Vancouver, 1976), and the United Nations Water Conference (Mar del Plata, 1977), the Organization received a mandate from the Thirtieth World Health Assembly, to undertake and intensify co-operative programmes with member countries to assist them in the planning and implementation of expanded national programmes for community water supply and sanitation.

16.3. Within the biennium 1982-1983, WHO's financial allocations for water-related activities, including regional and field work as well as global and interregional projects amount to US\$15 million from the regular budget and US\$25 million from other sources. Resources for headquarters activities for the units primarily involved in water supply and sanitation are estimated at US\$3 million for the same period.

16.4. Technical co-operation is provided through staff assigned to countries, as well as through staff from the Regional Offices and Geneva Headquarters. Besides the regular WHO staff, the Organization also employs consultants and temporary advisers on short-term contracts and for specific assignments. In some cases, the Organization resorts to contractual services and sub-contracting. There are some 170 professionals working in the environmental health field, mainly in water-related projects and programmes.

(b) Typical projects executed by WHO

16.5. The following information indicates typical activities relating to water development being carried out by the Organization: (a) promotion and co-operation with member countries to initiate or increase activities in water supply and sanitation, including the preparation of specific plans and

programmes, the identification and contacts with sources of funding for projects and the distribution of information on external support agencies; (b) support for training activities at different levels in the member countries, in which connexion WHO, in consultation with other United Nations organizations concerned, has prepared and is now making efforts to implement a human resources development strategy for the Decade; (c) gathering and dissemination of information at the global, regional and country levels; (d) fostering transfer of appropriate technology through such activities as publications and other means; and (e) carrying out pre-investment planning studies, including execution of 40 projects funded mainly by UNDP, 35 of which have reached the investment stage with an estimated cost of more than US\$1,200 million.

16.6. The following are more specific examples of the type of projects in which WHO is involved at the global and regional levels:

(a) Global water quality monitoring system (GEMS). The objectives of GEMS is to strengthen water quality monitoring efforts in Member countries. It is envisaged that the global network will be composed of approximately 1,200 stations throughout the world. GEMS is funded by UNEP and WHO. WHO, in co-operation with WMO and UNESCO, is the executing agency.

(b) Interregional co-operation project on IDWSSD. Involves Botswana, Ethiopia, Gambia, Ghana, Kenya, Lesotho, Malawi, Mozambique, Niger, Paraguay, Rwanda, Senegal, Somalia, Swaziland, Thailand, Togo, Tunisia, Uganda, and Upper Volta (with WHO/GTZ funding), Zambia (with WHO/SIDA funding). The project aims at the preparation of national Decade strategies and/or plans, including the formulation of projects designed to strengthen appropriate institutions, training, and improving the operation and maintenance of schemes. It is sponsored by WHO, the German Agency for Technical Co-operation (GTZ) and the Swedish International Development Authority (SIDA).

(c) The Pan American Centre for Sanitary Engineering and Environmental Centre - American Region. Operates under the sponsorship of WHO, extra budgetary funds (IDB), IDRC, etc., and co-operates with countries of the American Region in the planning and implementation of environmental health programmes, by providing assistance in training, research and information exchange.

(d) Caribbean Basin Water Management Project. Involves an investment of US\$880,000 and aims at developing self-sustaining training system (TDS) for water utilities of the Eastern Caribbean, making optimum use of appropriate institutions and technical expertise. It covers the following countries: Anguilla, Antigua, Barbados, British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts, St. Lucia and St. Vincent; and is founded by CIDA, Canada; Government of the Netherlands; British Development Division and Caribbean Development Bank.

(e) Among WHO's UNDP-funded country projects, in water pollution control and in drinking water supply and sanitation, the following may be mentioned: (i) development of water pollution standards in Turkey; (ii) Comprehensive water quality management of Laguna de Bay in the Philippines; (iii) Community water supply and waste disposal in Morocco; (iv) rural water supply in Java; (v) community water supply and sanitation in Nepal. Another example is a "Programme for Institutional Development" in Brazil, in which WHO

co-operates with the National Housing Bank in an institutional development programme for water supply and sanitation agencies aiming at the establishment and updating of entrepreneurial systems and techniques.

17. World Bank

(a) Scope and nature of water-related activities

17.1. While World Bank activity is outside the scope of JIU assessment, it has to be noted that any report on the United Nations system follow-up of the Water Conference would be incomplete without mentioning the support of the Bank. In fact, the WB together with its affiliated International Development Association (IDA) are frequently referred to as the "World Bank". The Bank participates actively in ACC and provides a different dimension to water resources development, primarily through investment financing.

17.2. The World Bank, besides itself carrying out some technical assistance and studies on many relevant aspects, in a sense, provides a "crowning" for resource assessment and pre-investment or feasibility studies, etc., and with others, inside and outside the system, makes actual implementation and end results possible through loans and other financing. The gamut of financing operations obviously requires close involvement with substantive aspects of the water field, including "own expertise" and building on the work of others, as is done for example in co-operative programmes with FAO and WHO to ensure a flow of sound projects for investment financing. The Bank also has a remarkable record of bringing together finance packages so that Bank/IDA resources are stretched by inclusion of other multilateral, bilateral and other sources of financing as well as the (often large) self-financing element of the numerous recipient developing countries.

17.3. In the water field, Bank loans and IDA credits are devoted primarily to irrigation, water supply and hydropower development. During the period 1 July 1977 to 1 May 1980 (as calculated from working tables supplied to ACC), such Bank/IDA financing amounted to US\$6,836 million for 148 projects or loan transactions. It is difficult to isolate the "water" parts of these projects. The repayment periods on Bank loans has varied from 10 to 20 years. All IDA credits have been repayable over a period of 50 years, including a ten-year grace period.

17.4. The above total includes 24 urban projects with water supply components, with Bank/IDA financing of US\$797 million out of total project costs of US\$1,677 million; the water supply components range from 3 to 35 per cent, with the bulk going to housing and other urban infrastructure. These projects are all expected to be completed before 1985.

17.5. Another 37 projects fell within the category of water and sewage, which is the segment most closely associated with the International Drinking Water Supply and Sanitation Decade. Bank/IDA financing for these projects amounted to US\$1,440 million, out of a total cost of US\$4,588 million, for completion in 1980-1985, with loan durations of 10 to 20 years. These projects are mostly for urban systems, including some very large ones such as Bombay, Manila and Sao Paulo, but also include provincial schemes.

17.6. Agricultural projects with irrigation or rural water supply components totalled 72 during this period, with Bank/IDA financing of US\$3,530 million; project cost appraised at US\$5,465 million, and with project completion times ranging from 3 to 7 years. Many of these projects benefit from additional co-financing from multilateral sources (such as regional banks, IFAD, UNDP), as well as different bilateral sources.

17.7. Another 15 projects during the period were for hydropower development (including relevant transmission), with Bank/IDA financing of US\$1,096 million out of total project costs of US\$7,187 million and with project completion dates ranging from 1981 to 1989 and loan durations from 15 to 50 years, plus grace years. The largest loan in this group was for US\$210 million (and for 15 years) for the Yacyretá project (Argentina-Paraguay), having a total cost of US\$3,785 million and also partly financed with US\$208 million from the Inter-American Development Bank (IDB), US\$830 million from suppliers and US\$945 million from foreign banks.

(b) Typical projects executed by the World Bank

17.8. While World Bank lending activities primarily are directed towards the design and execution of projects, funds for some technical assistance and studies may be included in the financing packages. Under certain circumstances, when requested by a Government and agreed to by UNDP, the Bank may agree to serve as executing agency for a particular UNDP project. In general, the Bank's response to such a suggestion will depend on the Bank's operational interest in the country, upon the availability within the Bank of the knowledge and technical competence necessary to direct the proposed project properly, and upon the burden which such direction would impose upon Bank staff. Accordingly, the Bank agrees to serve as executing agency only where it has the necessary specialized experience and where, in its judgement, there is no other specialized agency better equipped to administer the particular project. In such undertakings, the Bank organizes and supervises the project execution closely, but normally employs consulting firms to carry out most of the work.

17.9. Some typical projects for which the Bank has served as executing agency are listed below:

<u>Banladesh</u> , BGD/79/18	Improving Water Sector Planning	\$ 215,000
<u>Egypt</u> , EGY/73/024	Master Plan for Water Resources, Development and Use	\$2,479,800
<u>Fiji</u> , FIJ/80/017	Hurricane Flood Rehabilitation	\$1,000,000
<u>Guinea</u> , GUI/79/004	Water Master Plan	\$2,150,000
<u>India</u> , IND/78/047	Advisory Services for Modernization of Land and Water Management Schemes	\$ 361,500
<u>Mexico</u> , MEX/71/534	National Water Study	\$1,000,000
<u>Nepal</u> , NEP/75/010	Kulikhani Hydroelectric Project	\$6,100,000
<u>Pakistan</u> , PAK/80/012	Kalabagh Dam Project	\$8,000,000

Global/Interregional

<u>GLO/78/004</u>	Testing and Demonstration of Small-	\$2,846,000
<u>GLO/80/003</u>	Scale Solar-Powered Pumping Systems	
<u>INT/81/047</u>	Low-cost Water and Sanitation	\$3,000,000
<u>INT/81/026</u>	Rural Water Supply Hand Pumps, Laboratory Testing, Field Trials, and Technological Development	\$4,250,000

18. World Meteorological Organization

(a) Scope and nature of water-related activities

18.1. The main contribution of WMO, which, together with UNESCO, is a specialized agency mainly concerned with hydrology and related aspects, pertains to all matters relating to the assessment of water resources. This function includes activities related to the collection, processing, analysis and dissemination of hydrological data. Within its speciality, WMO is also active in areas of main concern to other organizations, for example, in community water supply, water for agriculture, pollution, environment, health and energy. The Organization plays a leading role with regard to natural hazards of meteorological origin such as floods, droughts and tropical cyclones. It is involved in extensive technical co-operation activities in areas relating to its regular programme and undertakes numerous field projects in association with UNDP, UNEP and other organizations.

18.2. Following the decision of the WMO Eighth Congress (1979), the WMO Hydrology and Water Resources Programme (HWRP) is divided into three programmes: Operational Hydrology Programme (OHP); Hydrology in Environmental Management and Development; and Co-operation with Water-Related Programmes of other International Organizations. This Programme is carried out mainly through the WMO Commission for Hydrology (CHy) and is one of five major scientific and technical programmes of WMO for the period 1980-1983.

18.3. The Commission (sixth session, 1980) selected 18 specific projects, most of them related to a technology transfer system of water resources assessment and forecasting techniques - the Hydrological Operational Multipurpose Subprogramme (HOMS) - for implementation in 1980-1984. For this purpose, it established six working groups and appointed 40 rapporteurs. WMO regional co-operation in water resources is organized through its six regional associations.

18.4. The regular programme provides a four-year (1980-1983) budget of US\$3,393,000 for technical activities on the standardization of instruments and techniques and preparation of regulatory material, institutional co-operation of hydrological services, network design, data transmission and processing, forecasting, droughts and desertification studies, hydrological aspects of weather modification, and conferences, symposia, workshops and seminars on these subjects. Some of these activities are carried out in co-operation with UNESCO, others with UNDP, ESCAP, and other organizations of the United Nations system, as well as river basin commissions and many international non-governmental organizations.

18.5. Support by the WMO Secretariat in Geneva is provided for the regular programme, principally by its Hydrology and Water Resources Department. The Department's expertise consists of nine professional hydrologists or water engineers and includes a Hydrology Division, a Water-resource Projects Division and a HOMS (technology transfer) Office. The professional staff have various backgrounds including extensive experience in hydrological operations in the field, in the design of hydraulic structures, teaching, research and organizational work. Their experience also extends from northern industrialized countries to the humid and arid developing regions of the world. In many of its activities the Hydrology and Water Resources Department works closely with the other scientific and technical departments of the Secretariat, especially on projects with both hydrological and meteorological aspects.

18.6. In addition to its regular programme, WMO executes or is associated with a large number of technical co-operation field projects. The relevant projects have a 1980-1981 financial allocation of US\$12,684,000. Typically, the projects deal with hydrological services, hydrological monitoring and forecasting for flood warning and water resources management, and with training in the field of hydrology. Major financing is from UNDP and bilateral sources. Major projects include those in hydrology in the Sahel, Upper Nile, Indus, Ganges, Niger and Amazon basins and Central America.

18.7. These field projects are administered within the WMO Secretariat by its Technical Co-operation Department. The technical backing is provided by the Hydrology and Water Resources Department, and the two departments jointly offer sectoral advisory services to the UNDP field offices in hydrology at the request of countries.

(b) Typical projects executed by WMO since 1971

Hydrology and Climatology of the Brazilian Amazon River Basin

18.8. The purpose of this project was to establish a data base for the rational development planning and management of water and related resources in the Brazilian Amazon region (about 4 million square kilometres). Data have been centralized in a data bank established with the use of the square grid data enhancement technique, which generates data given to the Amazon Basin. Detailed networks have been established using satellite-based data collection system, and mathematical models have been developed for forecasting flows in the Amazon and its main tributaries. The project, which is executed in association with UNDP/OPE, is a part of the programme of SUDAM, the Brazilian Regional Development Corporation for the Amazon Region.

Hydrometeorological Survey of Lakes Victoria, Kyoga and Mbutu Sese Seko

18.9. In a first phase, this project covering the Upper Nile Basin (350,000km²) and the great African Equatorial lakes established basic networks for collection of hydrological and hydrometeorological data. In the second phase, while data collection was continued by the governments concerned, a mathematical model of the hydrological regime of the Basin was developed, calibrated, and used for evaluating alternative development plans. The aim of this project was to assist riparian countries of the Nile in establishing a rational basis for posing a joint development of shared water resources.

Hydrological Forecasting System for the Indus River in Pakistan

18.10. The objective of this project is to develop a hydrological data base and forecasting system to control the flooding of the Indus River in Pakistan. The project also contributes toward improving the management policy of the existing large reservoirs. It has established a modern real-time data collection system, including automatic telemetry hydrological stations and a hydrological radar for assessment of rainfall over inaccessible areas in the upper Basin. Hydrological forecasts are prepared using both manually-operated and computerized models. The system became operational in 1981.

Strengthening of Agrometeorological and Hydrological Services in the Sahel

18.11. The persistent drought in the Sahel recorded since 1969 has made it clear that any long-term policy for shielding the population against similar events in the future must be based on appropriate knowledge of the climate and the hydrological regime. The Sahel Programme includes eight national projects aiming at strengthening the national hydrological and agrometeorological services of the Sahel countries. The national services are supported by a regional centre for agrometeorological and hydrological applications located in Niamey, which also provides training to nationals of the participating countries and leadership for co-ordinated studies and operations related to reducing the adverse consequences of droughts. The Sahel project also aims at establishing a monitoring network to provide early warning regarding drought situations in the future.

C. Other organizations

19. International Atomic Energy Agency

(a) Scope and nature of water-related activities

19.1. IAEA's water-related activities include programmes covering the use of nuclear technology (isotopes tracers) in hydrology, crop water use, and nuclear desalinization, as well as protection of water resources from radioactive pollution. It is promoting training, research and assistance in these fields.

19.2. The regular 1980-1981 programme included seven seminars, expert meetings, etc., mostly on isotope tracers, at US\$176,000 plus US\$250,000 in extrabudgetary sources, as well as 12 assistance projects for isotope tracer applications and laboratories in 11 countries, financed out of the IAEA regular technical assistance programme (total US\$577,500 for project durations). In additional field projects, IAEA reports isotope tracer work on seven projects in as many countries under sub-contracts for other executing agencies. For example, sub-contracts for UN and FAO had a total of US\$111,500, and US\$554,500 in three larger isotope projects financed by Australia, Sweden and UNDP.

19.3. During 1970-1979, expenditures on hydrology amounted to US\$825,000 under the IAEA regular programme of technical assistance and around US\$500,000 under UNDP funding. To backstop its technical co-operation projects, IAEA has a team of experts including 2 hydrologists, 1 hydrologist/engineer, 4 geochemists and 1 physicist. It also has an environmental isotope analytical laboratory which provides analytical support for its field projects.

19.4. The work relating to water resources comes under three departments: the Division of Research and Laboratories (with Section of Isotope Hydrology) and the joint FAO/IAEA Division of Isotope and Radiation Applications of Atomic Energy for Food and Agricultural Development of the Department of Research and Isotopes; the Division of Nuclear Safety and Environmental Protection (waste and environment) and the Division of Nuclear Power and Reactors (nuclear desalination) of the Department of Technical Operations; and the Department of Technical Assistance and Publications. Work is co-ordinated with other organizations such as the UN, UNESCO, WHO and WMO through various channels and programmes.

(b) Typical projects executed by the IAEA since 1971

19.5. Through its isotope hydrology programme, where isotope techniques are used as an applied tool to tackle specific aspects of given projects, IAEA acts as a subcontractor to other organizations of the UN system providing services in the application of isotope techniques. The list below gives examples of the typical projects with which the agency has been associated since 1971: (a) Master plan for the development of public water supplies and sewerage in Suriname, UNDP/WHO; (b) Groundwater studies - Guatemala (GUA/72/011), UNDP/UN; (c) Etude des ressources en eau du Sahara Septentrional (REG 100), UNESCO/UNDP (SF); (d) Etudes isotopiques appliquees à l'hydrogéologie du bassin du Hodna, Algérie (ALG 9), FAO/UNDP (SF); (e) Integrated Water and Land Use (Qatar/73/007), FAO; and (f) Utilisation of groundwater for the agricultural development of Yaguachi, Banco de Arena, Milagro and the provincia de Guayas - Ecuador (ECU 44) (Report 77-8388), Trust fund/FAO.

Annex III

ARRANGEMENTS FOR INTERORGANIZATION CO-OPERATION
AT THE GLOBAL, REGIONAL AND SECTORAL LEVELS

A. System-wide co-operation through ACC Intersecretariat Group for Water

1. Following the United Nations Water Conference, the Economic and Social Council, requested the Administrative Committee on Co-ordination, the organizations undertaking water-related activities and, where appropriate, the regional commissions, to make the necessary arrangements for intensifying inter-organizational co-operation and to elaborate appropriate procedures so as to provide support for the periodic intergovernmental review of the Mar del Plata Action Plan.
2. Pursuant to this request, the Administrative Committee on Co-ordination, at its third session in 1979, established an Intersecretariat Group for Water, involving all the organizations of the United Nations system active in the water field.
3. Following are the terms of reference of the Intersecretariat Group for Water.
 1. Co-operation in the monitoring of the progress being made in the implementation by Governments of the Action Plan adopted by the United Nations Water Conference
 4. The Group serves as a focal point at the global level for the gathering, analysis and synthesis of information from Governments in order to furnish the relevant governing bodies of the organizations concerned with the necessary information to undertake their reviews of the progress in the implementation by Governments and by the organizations of the United Nations system of the Mar del Plata Action. In particular, it assists the Secretary-General with the preparation of his reports on this subject to the Committee on Natural Resources of the Economic and Social Council. The CNR, at its regular biennial sessions during the 1980s, has been requested by General Assembly resolution 34/191 to carry out such reviews.
 5. An example in this respect is the set of reports (E/C.7/117 and E/C.7/118) prepared on the basis of information provided by Governments in response to a questionnaire transmitted to them by the Secretary-General in April 1980. The questionnaire was prepared by the ACC Intersecretariat Group for Water. Another questionnaire will be sent to Governments during the last quarter of 1983 in connection with the next major review by CNR in 1985.
 2. Promotion of co-operation and joint planning of the water-related programmes of the United Nations system and review of their implementation
 6. The Group is entrusted with the responsibility of drawing up system-wide plans encompassing joint action by the many organizations concerned. It is also responsible for determining the issues of current significance to be covered in the reports prepared in this connection.

3. Assistance in co-ordinating the water-related activities of the United Nations system at country and regional levels

7. Often several organizations are involved in a given area of activity, thus some overlapping is unavoidable in the system's efforts to respond to the needs of Governments. This particularly tends to be the case in technical co-operation which may call for varying functional inputs ranging from assessment, planning, investment and development to the operation and maintenance of existing projects. Thus, review and co-ordination of field programme activities constitutes one of the main concerns of the organizations.

8. In this connection, the Intersecretariat Group, at its first session in 1980, agreed that the appropriate management, rather than the elimination of such over-lapping should be the main source of concern. It also agreed that the management of over-lapping and distribution of functions should be carried out, as far as possible, along the lines of the functional responsibilities of the various organizations concerned and that, in some cases, joint action by two or more organizations might be called for.

9. Accordingly, the organizations concerned have agreed to apply, in a flexible manner, a set of guidelines for such action as follows:

(a) In cases where a short-term consultancy concerning a project is required and it falls within the purview of another organization, the executing organization would, as appropriate, endeavour to consult that organization on the choice of expert and, if possible, on the outcome of the expert's work;

(b) In cases where a significant part of a project can be clearly identified as having well-defined functions within the competence of another organization, that organization would be consulted for the purpose of assigning to it the responsibility for that part of the project;

(c) In cases involving tasks that cannot readily be sub-allocated, whether because of timing constraints or because the tasks do not lend themselves to a clear distinction in relation to the technical competence of other organizations, it would be more efficient for the executing organization to provide the full services. This organization would, however, seek the advice of and technical support from other organizations as might be required.

10. The organizations are fully aware of the need for early discussions concerning co-ordination and co-operation with regard to specific field project activities, preferably at the project formulation stage rather than through post facto adjustments. The "advance agreement" approach requires an early working notice of projects in the pipeline and timely opportunities for periodic discussions of the requirements for co-operation in the execution of projects. Efforts to achieve this are being made within the framework of the Intersecretariat Group for Water, as well as on a bilateral and multilateral basis (see sections B and C below).

11. The Group receives continuous secretariat support services from a nucleus of staff within the Office for Programme Planning and Co-ordination of the Department of International Economic and Social Affairs. Additional staff support is provided, as needed, from the other organizations. The Group holds regular meetings at yearly intervals supplemented by informal meetings organized as and when required.

B. Arrangements for sectoral and regional co-operation

1. Steering Committee for Co-operative Action for the International Drinking Water Supply and Sanitation Decade

12. In connection with a more specific item of the Action Plan (see annex I), it may be recalled that the United Nations Water Conference called for the designation of the ten-year period 1981-1990 as the International Drinking Water Supply and Sanitation Decade. The Decade was officially proclaimed by the General Assembly through resolution 35/18 at a special one-day meeting devoted to this purpose on 10 November 1980. The resolution, inter alia, calls on Governments, organs, organizations and bodies of the United Nations system, and other intergovernmental organizations to continue and, if possible, to increase their technical and financial co-operation with developing countries.

13. A Steering Committee for Co-operative Action has been established for the purpose of enhancing co-operation among the organizations in the field of drinking water supply and sanitation, including improved co-ordination and delivery at the country level. The membership of the Committee includes the United Nations (DIESA, DTCD, UNDP, UNICEF, UNEP, HABITAT), ILO, FAO, UNESCO, WHO, and the World Bank. The regional commissions participate in the meetings as observers. The Committee is chaired by the Deputy Administrator of UNDP, and receives secretariat support from the WHO Unit for Global Promotion and Co-operation for Water Supply and Sanitation. The UNDP Resident Representatives serve as the focal points at the country level for co-ordination of the technical support desired by the Government from the United Nations system. Under current arrangements, the Steering Committee meets twice a year. The ACC Intersecretariat Group is kept informed of the activities of the Steering Committee.

2. Arrangements for intersecretariat co-operation at the regional level

14. Pursuant to the Action Plan of the United Nations Water Conference, the Economic and Social Council recommended that the activities of agencies and organizations, undertaken on the basis of regional programmes, should be co-ordinated at the regional level through existing institutional mechanisms or through those to be established for the purpose of strengthening their role in that area.

15. To this effect, ESCAP established in 1978 the Inter-Agency Task Force on Water for Asia and the Pacific which meets twice a year to co-ordinate water-related activities undertaken in the region by the organizations of the system. ECLA co-ordinates regional activities of the organizations concerned through annual meetings of its Intersecretariat Working Group on Water. ECE

continues to organize, regularly, intersecretariat meetings on water problems in Europe which has been active for a number of years. It is also expected that both ECA and ECWA will establish similar intersecretariat mechanisms in the near future.

3. Designated Officials for Environmental Matters (DOEM)

16. The DOEM is composed of representatives from the the United Nations and the specialized agencies. It is a subsidiary organ of the ACC and its main task (under the chairmanship of UNEP) is to review the environmental activities of the system though the promotion of thematic joint programming of the environmental aspects of various sectors of development and human endeavour, including water resources investigation, planning and development. The thematic joint programming is undertaken within the framework of the System-wide Medium-term Environment Programme.

C. Arrangements for co-operation between organizations

1. World Food Programme

17. The World Food Programme was created to mobilize and distribute available surplus food by parallel resolutions adopted by the United Nations General Assembly and the FAO Conference in 1961. It became operational in 1963, with an initial mandate of three years, extended indefinitely thereafter.

18. The major objective of the Programme is to supply food for projects promoting social and economic development in recipient countries. Four types of projects are aided: (a) human resources development such as child feeding and school lunch programmes; (b) infrastructure development, such as irrigation and road projects, in which part of the workers' earnings are paid in food; (c) production development projects, such as the supply of feed grain to support livestock and poultry industries; and (d) resettlement programmes to help displaced groups make a new start on land made available to them (until their first crops are harvested).

19. Feeding programmes for children and related human resource development projects constitute the highest priority and the largest element of WFP activities. Aid for infrastructure improvement projects constitutes the second largest element in the Programme. Roads are built in many countries with WFP food assistance; workers (often locally unemployed labour) receive a portion of their salaries in the form of food distributed through the WFP.

20. The World Food Programme is governed by an intergovernmental Committee on Food Aid Policies and Programmes. The present composition of its governing body includes 30 member nations of the UN and FAO: fifteen members are elected by the Economic and Social Council, and 15 by the FAO Council. The Committee reports to the Economic and Social Council and the FAO Council. Member nations are elected for three-year terms and may be re-elected. The Programme is administered by a secretariat headquartered in Rome. The secretariat in Rome carries on the day-to-day operations of the Programme, including the review and appraisal of project requests for aid, the arrangement of shipments from donor countries and evaluation of results. Technical support to WFP is provided by the United Nations, FAO, ILO, WHO, UNESCO and other organizations, as the need arises. The headquarters

secretariat is also responsible for regular consultations with donor countries on status of pledges and availability of commodities, and for the formulation and processing of emergency requests. The Programme is represented in recipient countries by the resident representative of the UNDP or the regional representative of the United Nations.

2. World Bank co-operative programmes with individual agencies.

21. The World Bank participates in co-operative programmes with FAO, UNESCO, WHO and UNIDO and meets 75 per cent of the direct costs of these programmes. Given the severe constraints on development financing, particularly for concessional aid, there is a need for more effective co-operation with these agencies or organizations. Accordingly, joint reviews of each co-operative programme have been carried out to identify possible weaknesses and constraints, and to take action aimed at improving their effectiveness in meeting member-country needs.

(a) World Bank/FAO Co-operative Programme

22. The World Bank/FAO Co-operative Programme is designed to further progress in agriculture in developing countries by combining the staff resources and experience of the two organizations for certain operations. The Programme, established in 1964, seeks to expand opportunities for investment in agriculture, including irrigation. It is aimed primarily at assisting governments in identifying and preparing investment projects for IBRD or IDA financing in order to reduce a shortage of well-prepared high-priority projects which the borrowing countries have the capacity to implement.

23. The activities under the Programme are carried out under the aegis of the FAO Investment Center, which also co-ordinates all other FAO investment services. Missions undertaken by the Co-operative Programme are approved by the World Bank. Project identification and preparation missions are normally carried out under FAO responsibility, while all other missions are under World Bank responsibility. The terms of a loan often include provisions for technical assistance in the execution of the project and for complementarity studies. Under the Programme, borrowers of World Bank funds may request FAO (as well as other institutions or individuals) to supply such assistance.

24. The Programme has contributed to a greater diversification of the World Bank's investments in agriculture. Joint teams have worked on a wide range of projects, including livestock, irrigation, tree crops, credit institutions, co-operatives, forestry and some integrated regional projects. At present, there are 70 staff members in the World Bank/FAO Co-operative Programme. Since 1974, the Programme has prepared 180 projects in over 75 countries, or about one-third of the total number of agricultural projects the Bank/IDA financed during the same period. Current level of annual mission activity is about 120 missions to roughly forty different countries. A substantial number of those missions deal with land and irrigation projects.

(b) World Bank/UNESCO Co-operative Programme

25. The Co-operative Programme between the World Bank and UNESCO was established within the framework of their memorandum of understanding, signed in 1964, and supplemented in 1970. The Co-operative Programme aims at providing assistance to Governments in the identification and preparation of projects in the education sector for financing by the Bank. The projects are normally formulated through missions which are undertaken to analyse the problems and needs of the developing countries.

(c) World Bank/WHO Co-operative Programme

26. A memorandum of understanding, signed in 1971, with respect to working arrangements between WHO and the World Bank, provided for the establishment of a Co-operative Programme with respect to pre-investment activities in the fields of water supply, wastes disposal and storm drainage. The terms of reference of the Programme provide for assistance by the two organizations to countries of common membership in (a) the carrying out of sector studies, and the preparation of investment projects which the Bank is willing to consider for financing, and (b) the identification and preparation of proposals for pre-investment studies and other projects, including those suitable for financing by the UNDP.

27. Provision is also made for WHO's participation in the Bank's economic sector, project appraisal and project supervision missions.

28. During 1982, the Bank/WHO Co-operative Programme undertook fifty-seven missions. Most emphasized training and health education, following an informal agreement between the Bank and WHO to work towards a change in the CP work programme, away from its original emphasis on sector and project-preparation work in the water and sanitation field, toward more health-related activities. Future collaboration will aim at providing assistance in the evaluation of community health activities related to water supply and sanitation services and in the identification of actions required to improve their efficiency.

(d) World Bank/UNIDO Co-operative Programme on Industry

29. The Co-operative Programme between the World Bank and UNIDO emphasizes support of employment-intensive artisanal activities and small-scale enterprises in manufacturing and construction industries. The Programme includes studies of industrial policy issues in the least-developed countries. Staff of the Co-operative Programme carry out or take part in missions in support of Bank-initiated sectoral studies and project work in various countries. They also provide support for activities such as consultations for fertilizer and petrochemical industries.

30. During the past year, the Bank and UNIDO completed a joint review of the CP and agreed to shift the focus of its activities from joint operational missions to co-ordinating functions. The CP will seek to develop collaboration essentially around programmes in which UNIDO and the Bank are already engaged, for more effective utilization of the comparative strengths of both institutions and, incidentally, at some economy of costs.

3. UNESCO/WMO Working Agreement on Long-term Co-operation in the Field of Hydrology

31. A working agreement between the secretariats of UNESCO and WMO on long-term co-operation in the field of hydrology was approved by their respective governing bodies in 1973. The agreement contains an understanding by the two organizations to maintain and develop their collaboration in the field of hydrology and for close co-operation in the implementation of their respective hydrological programmes, particularly the Operational Hydrology Programme (OHP) of WMO and UNESCO's International Hydrological Programme (IHP). The agreement, inter alia, provides for: (a) exchange of information and consultations; (b) establishment of a joint liaison committee for hydrological activities; and (c) the convening, subject to the approval of their respective governing bodies, of joint international hydrology conferences at intervals of five to six years to review activities and define long-term priorities for hydrological programmes. Other interested organizations of the United Nations system are kept informed by UNESCO and WMO of the results stemming from their co-operative agreement, inter alia, through the ACC Intersecretariat Group for Water.

4. FAO/WMO Working Agreement on Hydrology and its Application in Agriculture

32. The agreement between FAO and WMO, which was concluded in 1974, sets forth a general division of responsibilities between the two organizations. On the basis of this agreement, WMO deals with aspects related to the collection and analysis of hydrological and meteorological data, while FAO is concerned with aspects directed towards the use of hydrological and meteorological data in water resources development related to agriculture. The agreement provides for the joint preparation of guidelines on hydrological surveys directed to field staff, the utilization of operational hydrological models in studies for the development of water for agriculture, and for the preparation of hydrological studies for the estimation of available water supplies for irrigated agriculture. It further provides that the two organizations should strengthen their present collaboration by conducting joint projects within a co-operative programme based on their regular work programmes, providing reciprocal advice and/or information on technical matters, and by associating themselves in specific water development projects in which their expertise may advantageously complement one another.

33. Provision is also made in the agreement for FAO and WMO to encourage liaison and co-ordination at the national level between the various governmental organizations dealing with hydrological aspects of the respective programmes of FAO and WMO.

5. FAO/WHO/UNEP Memorandum of Understanding on Health Aspects of Water Resources Development for Agriculture

34. The memorandum of understanding in this area was signed by the Directors-General of WHO and FAO in 1978 and UNEP has subsequently joined as a tripartite member. It aims at incorporating principles of environmental health within national agricultural development schemes in order to reduce hazards to human health that may arise from such development activities.

In addition to periodic review meetings to examine programme activities, with a view to identifying appropriate health measures, the memorandum of understanding provides for exchange of information and project data, including background information in the form of country briefs (FAO) and country profiles. The document also provides for preparation of guidelines and training and co-operation with technical assistance and funding agencies concerned both within and outside the United Nations system. One visible result of the memorandum of understanding is the establishment of a Panel of Experts for Environmental Management and Control of Vector Diseases which has already become operational and holds technical meetings at appropriate intervals.

6. FAO/WHO Memorandum of Understanding on Rural Water Supply and Agricultural Development

35. The memorandum of understanding in this area provides arrangements for collaboration between FAO and WHO and was signed in 1978. This understanding is primarily concerned with the collaboration of these organizations in the planning and implementation of projects, with a view to ensuring the integration of rural water supply and sanitation into programmes of rural development. To this end, the document specifies procedures for collaboration, including adoption of an agreed approach for the exchange of information and issuance of appropriate directives and instructions to their respective country representatives. The organizations would also designate focal points at their respective headquarters to facilitate direct and prompt consultation and exchange of information with the divisions concerned. Technical assistance and funding agencies concerned would be kept informed and encouraged to collaborate.

7. FAO/UNESCO Intersecretariat Agreements in Hydrology and Water Resources

36. Intersecretariat arrangements set forth through letters from the Directors-General of FAO and UNESCO in 1973 and 1974, provide for regular consultations to harmonize the planning of programmes of work in hydrology and water resources and to collaborate through exchange of advice and information in these fields.

8. UNIDO/UNEP Joint Committee

37. The UNIDO/UNEP Joint Committee co-ordinates work relating to environment and industrial development, including the use and development of water for industrial purposes and related environmental aspects. The Committee meets annually. There is a memorandum of understanding between UNIDO and UNEP which defines the areas of co-operation.