

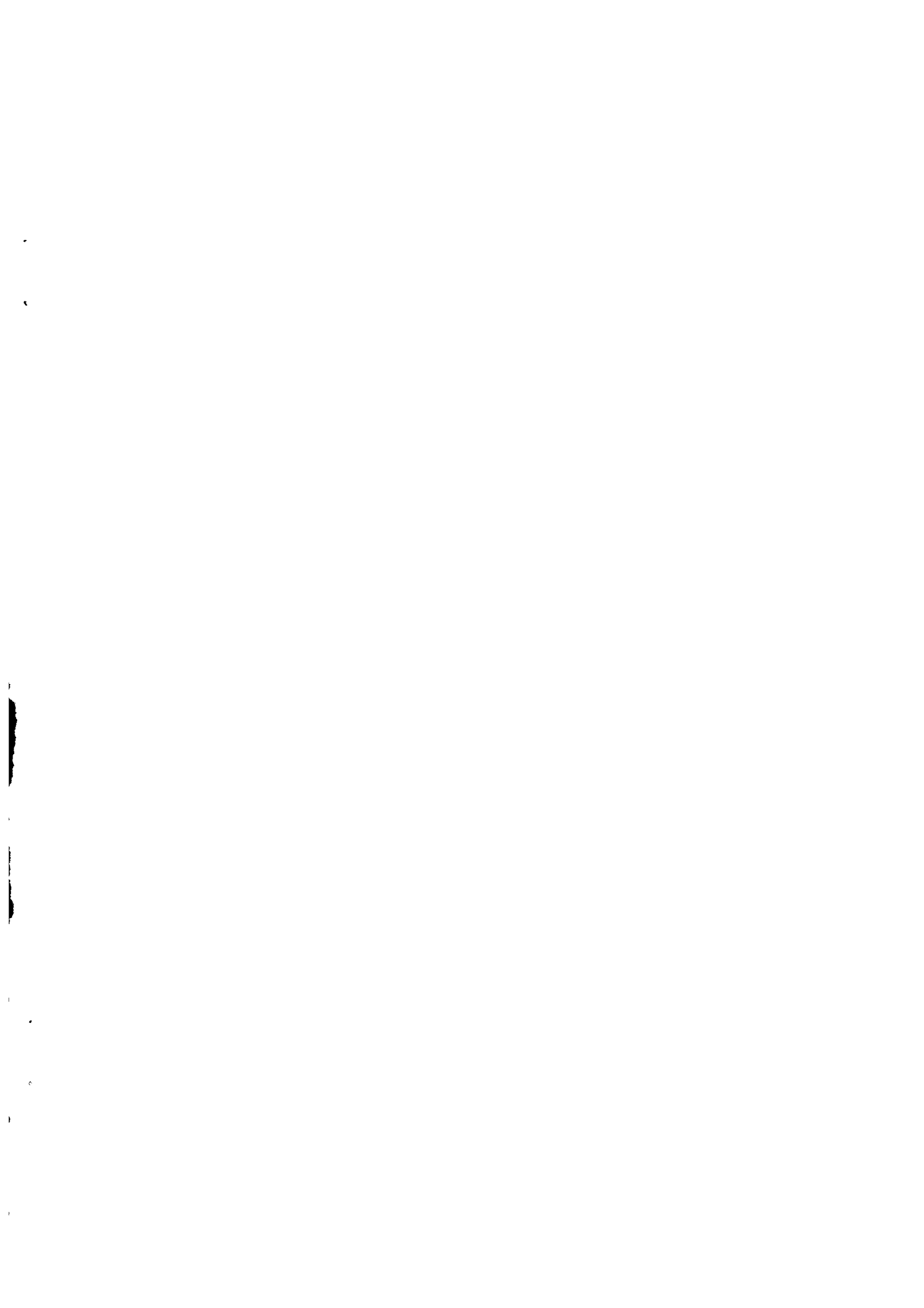
**Note on**  
**Guide to Agencies and Offices of the United**  
**Nations System Active in the Water Field**

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NOTE IN THE CONTEXT OF JIU/REP/81/8 :  
GUIDE TO AGENCIES AND OFFICES OF THE UNITED  
NATIONS SYSTEM ACTIVE IN THE WATER FIELD

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1. The United Nations system is engaged in a very wide range of activities in co-operation with its Member countries in the field of water development and administration. In fact, this family of international organizations has been consistently contributing for the last three decades, through different programmes, to a great variety of activities organized to assist countries in their endeavours to achieve a more efficient management and control of the resource. Seventeen organizations are now providing all kinds of services on a permanent basis, as recommended by the United Nations Water Conference, from training and information exchange to construction loans and financial support for studies and technological improvements in the use and conservation of the water available. The United Nations Disaster Relief Office (UNDRO) is particularly interested in flood prevention and preparedness (see report, paras. 79 - 82), and co-ordinates relief activities.

2. The present document was prepared as an additional note to JIU/REP/81/8 - on the application of the Mar del Plata Action Plan - with the purpose of providing a summary of the spheres of interest and the basic capacity of each of the organizations and specialized agencies which are active in this field. In this respect, it points out the most important aspect of the work which is being undertaken at the request of governments and it should be used only as a guide in connection with the relevant sections of the above mentioned report.

#### Food and Agriculture Organization of the United Nations (FAO)

3. FAO is a major water use sector agency and has activities in practically all aspects of water resources development and conservation, plus a variety of co-operative programmes. Water is, of course, basic to agriculture which accounts for some 80 percent of world water consumption. Water is also a key element in FAO's fisheries and forestry activities.

4. The "non-operational" 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; and the field technical and financial assistance, or operational activities are extensive.

5. In the light of growing population and food problems, FAO activities have been spurred on not only by the Water Conference but also by the 1974 World Food Conference and the subsequent establishment of the International Fund for Agricultural Development, as well as the older World Food Programme (WFP) and other developments.

6. Expenditures in 1980-1981 for water related activities may be added up from relevant parts to US\$6.9 million plus US\$6.0 million from extrabudgetary sources for the regular programme and financial allocations (mostly from UNDP and trust funds) in 1980-1981 for relevant field projects amount to US\$39 million. The regular activities appear in the FAO Work Programme and Budget: Chapter 1 General Policy and Direction (major programme 1.3 Legal); Chapter 2 Technical and Economic Programmes (2.1 Agriculture, 2.2 Fisheries, 2.3 Forestry); and Chapter 3 Development Support Programme (3.2 Investment).

7. The major programme, 2.1 Agriculture, has three relevant sub-programmes under programme 2.1.1 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, respectively, assessment and planning (2.1.1.1, with three elements), water development and management (2.1.1.4, with five elements, such as rehabilitation and improvement of irrigation and drainage, training and applied research,

modern technology, design and operation), and conservation and reclamation (2.1.1.5, with four elements, such as waterlogged and saline land, use of low-salinity water and environmental health safeguards).

Major programme 2.2, Fisheries, Inland Water Resources and Aquaculture (sub-programme 2.2.2.2 under programme 2.2.2 fisheries exploitation and utilization), has US\$1,232,000 plus US\$120,000 in the regular programme and US\$9 million for corresponding field projects; it includes pollution and many publications are produced under this programme. Similarly, major programme 2.3, Forestry, sub-programme 2.3.1.3, conservation and wildlife (in 2.3.1, forest resources and environment) has US\$134,000 in the regular programme and nearly US\$6 million in corresponding field projects dealing with watershed management, erosion and sediment control, soil and water conservation.

Major programme 1.5, Legal, has US\$170,000 in the regular budget and US\$150,000 in the field project budget devoted to collection and dissemination of water legislative information, legal studies and guidelines, training, and assistance to national governments and river basin committees in drafting water laws and/or regulations. Major programme 3.2, Investment, covers the Investment Centre, for which the water part of its budget may be estimated at US\$3.2 million from FAO and US\$4.0 million from the World Bank in the regular programme biennium; it may be noted that in 1978 and 1979 the FAO/World Bank Co-operative Programme resulted in financing approval of US\$1,731 million, with loan/credit components of US\$784.5 million for water development projects.

10. The Organization corresponds to the above programme with Departments of Agriculture, Fisheries and Forestry, as well as a legal office, etc. Water matters are perhaps most visible in, and usually represented by, the Land and Water Division of the Agriculture Department. That Division has some 16 officers and a regional 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 and for which assistance to land and water development and conservation projects was estimated at some 50 percent or US\$375 million of the 1977-1978 WFP budget (according to CBP.4/Add.1, page 33).

11. Altogether, FAO has 36 professionals assigned on a permanent basis to water problems, plus about 120 on contracts for one year or more and 40 on short-term contracts as consultants. FAO activities and staffing are thus more extensive than conveyed by expressions such as "water for agriculture", let alone "water resources development", and difficult to isolate with the latter focus. It may be recalled, however, that the FAO Conference has emphasized an integrated approach to the problems of water resources.

#### International Atomic Energy Agency (IAEA)

12. IAEA's mandate and activities have hardly changed since the 1972 JIU report. IAEA has 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.

13. The regular 1980-1981 programme includes seven seminars, expert meetings, etc., mostly on isotope tracers, at US\$176,000 plus US\$250,000 in extrabudgetary sources, as well as twelve assistance projects for isotope tracer applications and laboratories in eleven 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 (UN, FAO, etc.) for a total of US\$111,500, and US\$554,500 in three larger isotope projects financed by Australia, Sweden and UNDP.

14. 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.

15. The work relating to water resources comes under three departments: the Division of Research and Laboratories (with Section of Isotope Hydrology) 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 through 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, and with others such as UN, UNESCO, WHO and WMO through various channels and programmes.

#### International Bank for Reconstruction and Development (IBRD)

16. While IBRD 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 IBRD 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. The World Bank, besides itself carrying out 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 practically all 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.

18. 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.

19. 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 percent, with the bulk going to housing and other urban infrastructure. The loan durations are from 15 to 50 years plus grace years. These projects are all expected to be completed before 1985.

20. 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 smaller ones and provincial schemes.

21. 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.

22. 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 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.

23. The World Bank has traditionally put considerable emphasis on economic incentives and payment by users, taking into account social factors such as in water supply and sewage projects as a means of raising funds for investment and running costs, and of avoiding waste. Softer terms are, of course, available under IDA credits than under Bank loans and growing stress is laid on assistance to the poor in developing countries.

#### International Labour Office (ILO)

24. The ILO provides yet another dimension, with emphasis on labour-intensive technology, emergency employment and training of managers, supervisors and relevant vocational workers. It has developed consciousness of water resources and related technology activity rather recently and joined ACC work in this field.

25. One segment concerns construction technology and employment, with studies under way on appropriate technology for irrigation works, etc. and is aimed at labour-intensive methods, as appropriate, to use unskilled labour, reduce unemployment and save capital. Another segment is focused on emergency employment schemes, such as construction of irrigation and water-well works among others, to meet seasonal unemployment, droughts and other situations; in this component, water-related activities are included in a major special labour-intensive public works programme (with a 1980-1981 financial allocation of US\$5.3 million for technical assistance and US\$20 million for financial assistance from various sources). Reference may also be made to general development of management competence.

26. Training forms an important part of field activities; for example, training of managers, supervisors, etc. in relevant vocations, such as irrigation and drinking water supply. Such training is included in four specific projects on rural water supply, low-lift pumps, etc., adding up to US\$1.8 million in 1980-1981, as well as a part of broader projects not focused on water.



27. While ILO does not have a special unit for water, the relevant activities are handled mainly by the Technology and Employment Branch (with one specialist in this field) and the Emergency Employment Scheme Branch of the Employment and Development Department and by the Vocational Training Branch of the Training Department. Field activities are managed from Headquarters.

#### United Nations Headquarters

28. Since the 1972 JIU report, restructuring has taken place under General Assembly resolution 32/197. In particular, the Department of Economic and Social Affairs was broken up and co-ordination functions and operational/substantive functions separated.

##### 1. Department of International Economic and Social Affairs (DIESA)

29. The water activities of this Department are centred on co-ordination functions, which are served by the Interorganizational Co-operation Section, Division for Interorganizational Co-operation and Joint Planning, in the Programme Planning and Co-ordination wing of the Department. Essentially, two professionals (P-5, P-4) work full time on these matters, such as the ACC reports mentioned above, related questionnaires and data sheets. The work basically continues that once handled by the Water Resources Development Centre (which in later years was part of the United Nations Centre for Natural Resources, Energy and Transport) and may be said to provide part of the secretariat functions envisaged for the Water Resources Board proposed by ACC to the Water Conference and dealt with in later reports to ECOSOC but still unresolved and to be covered in yet another ACC report to CNR in 1981.

##### 2. Department of Technical Co-operation for Development (DTCD)

30. The bulk of substantive water activities (and now also public works activities) of the United Nations proper - both substantive work under the regular programme and in particular operational or field projects - comes under the Water Resources Branch (WRB) of the Division of Natural Resources and Energy (formerly the Centre for Natural Resources, Energy and Transport). The Branch (which includes 1 D-1, 1 P-5, 1 P-4, 2 P-3s and three senior technical advisers each in surface water and ground water in New York) functions under a broad mandate laid down by the United Nations Charter as well as more specific resolutions of the General Assembly and ECOSOC, including several deriving from CNR and the Water Conference. The WRB also has a number of regional advisers, one in surface water, two in public works and one in water-well drilling. Restructuring has been followed by agreement on work between DTCD and DIESA, the latter obtaining its two water specialists from the Branch.

31. As a central organization with wide responsibilities, the WRB/DNRE/DTCD takes a broad approach, such as assisting in water policy, planning and management and also provides substantive support not covered by others.

32. Most of the work is devoted to national and regional operational projects, at the request of governments, with a combined financial allocation of some US\$24 million in 1980-1981 for projects in all developing regions. The projects cover such areas as establishment of national water resources institutions, groundwater exploration and development, planning of combined surface and ground water development, and river basin development; and they involve resource assessment, water supply and demand management for different uses, various technological and economic studies and research, training and promotion of TCDC in practice.

33. The non-operational activities, not tied to specific field projects, include 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 on water-related matters, such as specialized study tours in China, an interregional seminar on rural water supply in October 1980 in Sweden, and an interregional meeting of international river organizations in January 1981 in Senegal. Financing is variously derived from the regular programme (including utilization of inconvertible currencies) and/or extrabudgetary sources such as UNDP and individual governments.

#### Economic Commission for Africa (ECA)

34. ECA has a potentially important rôle to fill in the field of water resources, as indicated in the African regional meeting following up the Water Conference (doc. E/C.7/92). The 1980-1981 work programme includes about a dozen elements (with resources of US\$346,700) in the regular programme for planning and development of national and international water resources, including setting up an integrated committee and regional inter-agency board, and another half dozen projects supposed to be supported with extrabudgetary funds including a regional meeting on drinking water supply and sanitation.

35. According to the 1980-1983 Medium-Term Plan (A/33/6.Rev.1), ECA's work programme in the field of water resources seeks to address the problem of lack of adequate knowledge regarding water resources in Africa. It focusses attention on the problems faced by a large majority of the African population that do not have access to reasonably safe water supplies, and particularly on the problems of drought-affected areas. The programme will emphasize approaches leading to effective planning, policy making and legislation, as well as self-sufficiency through co-operation in lake and river basin development.

36. As a result of the actions outlined above together with the preparation of a hydrogeological map of Africa, ECA expects that a better knowledge of water resources' availability will be acquired, a higher percentage of the population will obtain safe water within reasonable access, and substantial progress will be made in other relevant aspects of water resources development.

37. The Commission has faced great difficulties. Instead of the substantial strengthening called for, the Water Resources Unit of the Natural Resources Division has shrunk to one civil engineer (P-4) and one bilateral expert.

#### Economic and Social Commission for Asia and the Pacific (ESCAP)

38. ESCAP has a long and impressive history of activities in water resources, focussing in the earlier years on flood control problems but broadening to encompass practically all aspects of water resources. Results are widely distributed through United Nations sales publications, in the "Water Resource Series" (known until 1963 as "Flood Control Series"), with No. 1 appearing in 1951 and currently up to No. 54. Since 1952, ESCAP has also published a quarterly "Water Resources Journal". The publications cover a variety of studies as well as proceedings of conferences, committee sessions, symposia and seminars.

39. In this field, the Commission has functioned essentially through a regional conference on water resources development, which after ten biennial sessions was succeeded by the ESCAP Committee on Natural Resources. The latter meets annually and devotes every third session to water (its intervening ones mainly devoted to energy and minerals, respectively), including the first, fourth and seventh sessions in 1974, 1977 and 1980. There is also a Typhoon Committee, meeting annually since 1968, and a WMO/ESCAP Panel on Tropical Cyclones meeting annually since 1974, as well as the Interim Committee for Co-ordination of Investigation of the Lower Mekong Basin. The latter three essentially have their own secretariats (in Manila, New Delhi and Bangkok, respectively, with UNDP and other extrabudgetary support), but receive ESCAP administrative and technical support. ESCAP (then known as ECAFE) was, of course, a prime mover behind the Mekong development, a precedent for actual international river basin co-operation.

40. Work is centred in the Water Resources Section of the ESCAP Natural Resources Division, which in the early years was known as the ECAFE Bureau of Flood Control; the Section has 2 P-5s, 3 P-4s and a regional adviser, with 1 P-5 and 1 P-2 vacant, and a 1980-1981 regular budget of some US\$826,000. Perhaps more significantly, ESCAP has managed to line up considerable bilateral and multi-lateral support, and government expert contributions, such as for studies (many submitted to the Committee), expert group meetings (such as on data systems in 1978 and water use data in 1979), a roving seminar in 1976 on the use of computers in hydrology and water resources planning, and various seminars, workshops and study tours. It has developed close co-operation, for example, on hydrology (with UNESCO, WMO), irrigation (with FAO), symposia on development of deltaic areas (with UNEP), water supply and sanitation (with WHO), and on typhoons and tropical cyclones (with WMO, UNDRRO and the League of Red Cross Societies). It organized an Interagency Task Force on Water for Asia and the Pacific, which held its inaugural session in September 1978. Like the other regional economic commissions, ESCAP is often hampered by lack of travel funds from more active participation in meetings and contacts beyond the region and, as noted, plays a small rôle in operational activities. It may be noted that an ESCAP regional adviser assisted many governments in the region in completing the ACC questionnaire on government implementation of the Mar del Plata Action Plan.

#### Economic Commission for Europe (ECE)

41. ECE has a well-established machinery for co-operation between its member governments. The formal actions of the Commission are decided upon through annual meetings of its Committee on Water Problems (twelfth session November 1980). The Committee has oriented its programme to take into account and follow up the Water Conference as appropriate for the region (see doc. E/C.7/93). The Committee draws on reports and recommendations of its Group of Experts on Aspects of Water Quality and Quantity (eighth session May 1980), special meetings, seminars and studies included in its programme. ECE has a Water Section (with 1 P-5 and the full-time equivalent of two Professionals on water) in its Environment and Human Settlements Division and, most importantly, a well developed system of (unpaid) government rapporteurs. There is also an annual Inter-Secretariat meeting on Water Problems in Europe (twentieth session May 1980).

42. The programme of relevant work, which is moved forward annually, includes for 1980-1984 (see doc. ECE/WATER/23) four major components: long-term prospects and planning of the water economy (with six elements and two sub-elements); economic problems of water management (with four elements); environmental problems of water management (with seven elements and seven sub-elements); and research and development (with five elements). Among current activities may be noted adoption by the Commission in 1980 of the "ECE Declaration of policy on prevention and control of water pollution, including transboundary pollution" and the holding of a meeting (1 - 3 September 1980) on International River Commissions and of a seminar on Economic Instruments for Rational Utilization of Water Resources (in October 1980 in The Netherlands, as part of a series of basically annual seminars on different subjects). While ECE is not engaged in operational water projects, it does generate contacts between governments and experts, as well as valuable research and documentation such as in connection with the last mentioned seminar.

#### Economic Commission for Latin America (ECLA)

43. ECLA followed up the Water Conference with a regional meeting in October 1978 (see doc. E/C.7/91), which led to strengthening at both the governing body and secretariat levels. Thus, the ECLA (sessional) Committee on Water held its first meetings as part of the eighteenth session of the Commission (in April 1979, La Paz), which in turn adopted its basic resolution 411 (XVIII) on implementation of the Mar del Plata Action Plan. A permanent Water Resources Unit was established in the ECLA Headquarters Division of Natural Resources (the Mexico office also participates in some water activities, such as the Central American Regional Committee on Water Resources). The Unit is seeking one more professional and a regional adviser beyond current strength (1 P-5, 1 P-4), and has a 1980-1981 budget of US\$406,100 or 31 percent of ECLA's natural resources programme.

44. During the 1980-1983 period, ECLA plans to assist its member governments in the management of water resources through improved formulation of strategies for the use and protection of water and to facilitate co-operation between countries in water management matters of common interest (A/35/6/Rev.1).

45. The problem addressed concerns the intensified use of water in recent years in Latin America as a whole and in almost every individual country. Increasing conflicts are foreseen in the use of particular water resources and the cumulative effects of such conflicts in water-related development projects may constitute an actual or potential threat to productive efficiency, with consequent social and economic costs. Management systems designed to cope with this situation and related planning processes leave room for improvement and often the lack of information and trained staff prevents improvement and hampers co-operation between countries.

46. ECLA plans to tackle these problems by undertaking studies on the optimum and integrated use of water. It is proposed to facilitate the interchange of experience in such areas as water supply and sanitation, environment aspects of water management and the economic and social evaluation of projects among water managers and related professionals through advisory missions, studies and seminars. The programme of activities will call for co-operation with other international agencies and an Inter-Secretariat Working Group has been established to facilitate co-ordination at the regional level, and efforts will be made to facilitate intergovernmental co-operation in the management of shared water resources.

47. While ECLA does not generally participate in operational or country projects, it is responsible for a number of training activities and studies, such as on water management and environment (with UNEP) and on financing for the Drinking Water Decade in the region. It has organized a first ad hoc inter-secretariat meeting on co-ordination of water activities in Latin America (23 - 24 June 1980, Santiago) and will report on relevant activities of the specialized agencies every two years. As part of its emerging regional central rôle, it is to prepare a periodic report, every four years, on progress in the Latin American region in the implementation of the Mar del Plata Action Plan.

#### Economic Commission for Western Asia (ECWA)

48. ECWA followed up the Water Conference, and the many regional recommendations to and from the Conference, with a second regional meeting (28 December 1978 - 3 January 1979, Riyadh, see doc. E/C.7/94). It has since been struggling with the proposal to establish a regional water resources council (see doc. E/ECWA/96 to seventh session, April 1980, Baghdad). The seventh session finally adopted resolution 83(VII) which states that the water resources council should be established. ECWA is now in the process of following up on resolution 83(VII) and some Member States have already expressed their willingness to participate in the said council.

49. The main problem identified concerns the inadequacy of water resources to meet the full demand for domestic, agricultural, industrial and other uses. Misuse, waste and underdevelopment of the resource 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.

50. The objective set by ECWA during the 1980-1983 period is to promote and identify regional co-operation in order to conserve, develop and augment the water resources of the region in the most efficient and economic manner, placing more emphasis on non-conventional water resources. ECWA is also to follow up on the preparatory activities in the region for the International Drinking Water Supply and Sanitation Decade.

51. ECWA is presently engaged in a number of activities such as mapping out 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 the water resources of the countries of the region.

52. These actions 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.

53. This programme will be continued in 1982-1983 and will be geared towards increasing water by non-conventional methods and to better development and management of water and sea resources. Linked to this will be a study on the application of low cost desalination techniques and pumping facilities for rural area development as well as developing guidelines for determining the economic use of water.

Special emphasis will be placed on following up activities related to the Drinking Water Supply and Sanitation Decade. A consultant is already in the process of touring the region in an effort to co-ordinate the activities related to the Decade.

57. Towards the end of 1983, it is envisaged that a regional water council will be effectively functioning and will constitute a forum for co-ordinating efforts of the regional organizations and bodies active in the field of water resources in the region.

58. A seminar on selected aspects of water resources development in the ECWA region is also scheduled to be held during the 1982-1983 biennium,

59. Under its current programme ECWA has provision for three Professional engineers (1 P-5, 2 P-4) in the Water-Sub-programme of its Natural Resources, Science and Technology Division, with an overall amount in 1980-1981 of US\$321,500 for five elements: promotion of technical co-operation and information; non-conventional water; guidelines for economic use of water; council plans; and seminar on latest technologies.

#### United Nations Children's Fund (UNICEF)

60. 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.

61. From having consisted mostly of provision of pumps, piping, transport and training, with field expenditures of less than US\$2 million a year in the 1960s and reliance mainly on WHO technical expertise in the field, UNICEF's field programme took off in the 1970s, particularly after the Water Conference; UNICEF's input for water supply and sanitation, with continued emphasis on the rural and poor population, shot up to over US\$50 million in 1979 and is estimated at US\$70 million in 1980-1981. The scope has expanded to include the whole gamut of these activities and UNICEF now has some 120 technical experts of its own in the field, backed up by Headquarters (currently with only three experts, but likely to expand). Operations are carried out in close collaboration with the other organizations in water supply and sanitation, inside and outside the United Nations system, in about 85 countries. Some 40 percent of UNICEF's regular budget goes to water supply and sanitation and considerable contributions and funds-in-trust are mobilized from other sources.

62. The programme includes significant advisory services, training, supply of equipment and materials for low-cost water and sanitation schemes, community motivation and participation, local manufacture of related equipment and materials. 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.

United Nations Development Programme (UNDP)

60. UNDP finances projects and provides technical assistance, mostly executed through the other agencies in the system, on all aspects of water resources development, in response to the requests of governments of developing countries within the framework of country programmes and their indicative planning figures, and also regional programmes approved through the Governing Council, and under reserve fund. While expenditures for "water projects" amounted to US\$91.6 million in 1959-1970, as noted in the 1972 JIU report, and have since grown with the programme, precise current estimates are not available.

61. With its extensive network of resident representatives co-ordinating activities at the country level, UNDP plays a key rôle in practically all the relevant operational activities of the system, both in their financing and in other ways. One important aspect - bearing heavily on joint planning, programming and co-ordination - is the authority, exclusively retained by UNDP through its Regional Bureau in consultation with the government and resident representative concerned, to select the executing agency and thus also to deal with competition between agencies for field projects.

62. While the majority of UNDP-financed projects are executed by other United Nations agencies (and account for the bulk of field projects referred to under them), UNDP itself executes a selected and limited number of specific water and other projects through its Office of Projects Execution (OPE). The latter executes 5 to 6 percent of the overall UNDP programme, with about 40 percent of that share for non-technical projects requiring administrative and financial rather than technical inputs. All the large and most of the small OPE projects are executed by sub-contracting to firms and institutions and OPE project personnel function as project management rather than technical staff. The OPE list for 1974-1980 includes about a score of water-related projects, among them dam projects in Brazil, Malawi, Mali, Mauritius, Nepal and Panama, as well as some ground water, hydrology and river basin projects. The 1980-1981 financial allocation is estimated at US\$4.5 - 5 million for OPE field projects of water resources appraisal, planning, development, management and conservation (and at US\$15.6 million for the duration of the projects, according to the ACC data sheet).

United Nations Educational, Scientific and Cultural Organization (UNESCO)

63. UNESCO's main activities in the field of water have developed since 1949, first through its Arid Zone Programme 1951-1964 and then its International Hydrological Decade 1965-1974, into a leading rôle in the fields of education and training, of research and (in close co-operation with WMO) of assessment of water resources, embodied since 1975 in the International Hydrological Programme (IHP). UNESCO thus prepared a Water Conference follow-up report (E/C.7/88) on public information, training and research and, together with WMO, another one (E/C.7/78) on assessment of water resources with strategy proposals endorsed by ECOSOC and its CNR (in resolution 1979/70, II).

64. The programme of water resources is one of the main objectives of the overall UNESCO programme. It concerns improving knowledge about water resources and development of the scientific basis for understanding inter-relationships between human activities and the hydrological system and for developing the rational management of water resources.

65. The main line of emphasis is on implementation of the IHP as well as on the supporting activities designed to provide the scientific basis and to increase the capacity of Member States through training, advisory and other support services. Central to these activities is the IHP Intergovernmental Council, which in turn has a committee on man's influence on the hydrological cycle, another on training, education and technical assistance, and also regional committees as well as numerous working groups and rapporteurs; it builds on, and UNESCO largely operates through, over 90 IHP national committees and more than 20 national focal points. Much of UNESCO's strength lies in close contact with and support of scientific non-governmental organizations.

66. The IHP puts more emphasis on the application of hydrology and other related water science to water assessment and management than did the IHD, which came to an end with a 1974 international conference, convened jointly by UNESCO and WMO, on the Results of the International Hydrological Decade and on Future Programmes in Hydrology. The IHP projects deliberately follow up relevant recommendations of not only the Water Conference but also of the United Nations Conferences on Desertification (1977) and on Science and Technology for Development (1979). The first phase of the IHP ended in 1980; the second phase (1981-1983) will tackle even more water management problems; and the third phase (1984-1989) will be preceded by another international conference in 1981, jointly convened by UNESCO and WMO, on hydrology and rational management of water resources. This conference will, among others, determine guidelines for the future programmes of both UNESCO and WMO. Meanwhile, reviews and decisions are provided by the IHP Council and the UNESCO General Conference, both usually meeting once every two years (alternately).

67. A new line of emphasis in the current programme and budget of the Organization is the launching of three major regional projects (covering Latin America and the Caribbean, the Arab States and Africa) on "the rational utilization and conservation of water resources in rural areas". These projects are based on an integrated and interdisciplinary approach combining aspects relating to natural sciences, social sciences, education and communication. They are meant to contribute to the increase of endogenous scientific and technological potential to the awareness and participation of the population, to the progress of research and the development of information networks, to the rational use of water resources based on the most appropriate technological options, taking account of environmental and socio-economic conditions, and to the promotion of a water policy benefitting the overall development of the regions concerned.

68. For 1979-1980 the total pertinent regular programme was for US\$1,250,000 (not including staff and overhead costs), while relevant regular programme budgetary allocations for 1981-1982 came to US\$4.8 million (calculated from eight ACC data sheets). Financial allocations for UNESCO-executed relevant field projects (according to ACC data sheets) amount to US\$4.6 million for 1980-1981 and to US\$7.7 million for the duration of these projects, with the latter total made up of US\$0.6 million from the UNESCO regular budget, US\$4.8 million from UNDP, US\$1 million from UNEP and US\$1.3 million from funds-in-trust. These projects are for assistance in institution building in hydrological research and water resources development, institution building in education and training in water sciences and management, and for hydrological studies and surveys related to engineering projects in developing countries in this field. As in the regular programme activities, there is often close co-operation with other United Nations agencies.



69. At the centre of these extensive UNESCO activities is the Division of Water Sciences (with six Professionals) in the Science Sector, with other related Divisions such as Earth, Marine and Ecological Sciences. There are five regional hydrologists, each attached to a UNESCO Regional Office of Science and Technology.

### United Nations Environment Programme (UNEP)

70. Another new agency, UNEP has been added to the water field since the 1972 JIU report. UNEP's responsibilities include environmental aspects of development and management of water resources and support of activities for solving related problems.

71. Since UNEP deals with a "horizontal" sector, it is somewhat difficult to disentangle "water" activities and expenditures, particularly since budget and organization are not broken down in this way. Thus, there is no clear-cut secretariat unit responsible for water, which is dealt with in part by the Division of Environmental Management but also by other units and offices and brought together loosely in a Soil and Water Task Force.

72. It may be recalled that the 1972 Environment Conference declaration and action plan deals with various aspects of water. To this were added environmental aspects stressed by the Water Conference and relevant parts from the 1977 Desertification Conference (followed by the establishment of a Desertification Unit in UNEP), since desertification basically signifies lack of water and drought problems. Besides developing its own programme, UNEP was also charged by the General Assembly in 1975 to develop standards for the co-operative and harmonious exploitation of natural resources shared by two or more states (mainly international rivers). A working group prepared 15 draft principles which were commended by General Assembly resolution 34/186 as guidelines the implementation of which is being followed up by UNEP.

73. Water also figures as an element in the UNEP subject area "terrestrial ecosystems" with support of international activities, assessment of pollution and environmental impact, demonstration projects, environmental protection assistance, public information, research and development, training in water resources management, etc. Relevant activities are also included in the Global Environmental Monitoring System (GEMS-water, with WHO as lead agency), natural disasters and supporting measures for which UNEP falls back on its Environment Fund (spending about US\$30 million a year for all purposes, in addition to regular budget income).

74. Budget allocations in 1980-1981 for "non-operational activities" in "water" amount to about US\$3.5 million with about one-third going to a training course in the USSR on environmentally sound river basin management and to protection of the atmosphere (with UNESCO and USSR); earmarkings also include US\$564,000 for an international water resources management training course in France and US\$250,000 for environmental aspects of large dams. Other activities include rain and storm water harvesting, rural drinking water, eutrophication and environment support related to the Mekong, Upper Nile, Euphrates and Rufiji Basins (Tanzania). Several studies are related to field projects, the latter with another financial allocation in 1980-1981 of US\$2,158,428 (obtained from 6 A/C.2 data sheets) are mostly executed in co-operation with other United Nations agencies, such as UNDP, UNICEF and WHO.

### United Nations Industrial Development Organization (UNIDO)

75. Among relative newcomers with water-related activities, UNIDO has responsibilities regarding industrial uses of water and is concerned about both the essential input of water and waste water. It is prepared for studies and surveys, such as on water use practices, quantity and quality standards and norms, recycling and waste water technologies, incentives for more efficient industrial water use, and industrial case studies. Perhaps more important are field project activities, which in a few cases are focused on waste water treatment and in many more cases involve water aspects in industrial development and environmental projects, such as in the iron and steel, leather, fertilizer, petrochemical, non-ferrous metal, pulp and paper, and agro-industrial sectors. Some field projects deal with water use equipment such as mini-hydro power generating plants, irrigation pump maintenance and plastic water pipe manufacturing.

76. There is no unit in UNIDO devoted to industrial water use as such and owing to its organization structure it is particularly difficult in this case to present a comprehensive and quantified picture of relevant activities.

### World Health Organization (WHO)

77. WHO's interest in this field stems from the far-reaching impact that water and sanitation have on human health. The Organization has long been engaged in the fight against communicable diseases and for increased rural and urban water supplies and adequate facilities for waste disposal and pollution control.

78. WHO has been a spearhead for the International Drinking Water Supply and Sanitation Decade. In fact, it has the oldest programme on community water supplies and sanitation, with early publications on drinking water standards, sanitation and other studies, a long series of training courses for sanitary engineers and sanitarians, field projects for institution building and water supply pre-investment studies, development of reference and training centres, etc.

79. In addition to the concept of drinking water and sanitation in the narrow sense, for over 30 years WHO has assisted in the control of disease vectors (such as malaria mosquitos, bilharzia snails, etc., associated with water) and worked on health aspects for example with FAO on agricultural water development projects, as well as being a guardian of water quality and environmental control. Part of this work involves co-operative monitoring of the quality of natural waters. WHO is the lead agency, in co-operation with UNEP, UNESCO and WMO, on Global Environmental Monitoring System (GEMS) project on water, under which 300-400 river stations are being established to measure pollution.

80. Whilst up-to-date information is not readily to hand, it may be noted that expenditures on "water activities" in 1976-1977 (derived from figures reported to the Water Conference in document E/CONF.70/CBP/4/Add.1, Annex II, pages 38-41) amounted to US\$9.2 million from the regular budget and US\$10.8 million from extra-budgetary sources, plus correspondingly US\$10.3 million and US\$24 million for control of water-breeding vectors of human disease.

81. WHO's activities in the water field have been enhanced with the Drinking Water Supply and Sanitation Decade and the establishment -- on the initiative of the Director-General of WHO and the Administrator of UNDP -- of a Steering Committee for Co-operative Action (composed of UN, UNEP, UNDP, UNESCO, UNICEF, FAO, IBRD, ILO and WHO), chaired by the UNDP Deputy Administrator. Secretariat services for the Committee and the related consultative meetings (so far held in Geneva in November 1978 and June 1980 and including donor governments and NGOs) are provided by the Unit for Global Promotion and Co-operation for Water Supply and Sanitation in WHO's Environmental Health Division. The Committee and Unit operate in parallel with, but nominally act through, the Inter-Secretariat Group for Water Resources and ACC, with the Decade getting off to an earlier and separate start in Water Conference follow up. The Unit has been instrumental in gathering and analyzing information which appears in reports for the General Assembly's launching of the Decade on 10 November 1980. The WHO Division has periodically analyzed the global situation since 1963 and, with the World Bank and others, has been engaged in "rapid assessment" in 1977-1978, sector studies, country studies, country assistance for preparation of Decade plans and projects, workshops, etc. There are some 170 sanitary engineers and other technical experts in relevant WHO field projects, which are managed through WHO regional offices.

#### World Meteorological Organization (WMO)

82. The main contribution of WMO in this field, as lead agency together with UNESCO, is in all matters relating to the assessment of water resources. Within its speciality, WMO is also active in areas where others act as lead agencies, for example in community water supply, water for agriculture, pollution, environment, health and energy. The Organization plays a leading rôle 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 others.

83. The WMO Eighth Congress (1979) decided that the WMO Hydrology and Water Resources Programme (IWRP) should be 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 1980-1985.

84. 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 Multi-purpose Sub-programme (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.

85. 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 UNEP, ESCAP, etc., river basin commissions and many international non-governmental organizations.

86. Support by the WMO Secretariat in Geneva is provided by its Hydrology and Water Resources Department (9 Professionals), which has a Hydrology Division and a Water Resource Projects Division.

87. In addition, WMO executes or is associated with a large number of technical co-operation field projects administered by its Technical Co-operation Department (with a sectoral adviser on hydrology). The relevant projects have a 1980-1981 financial allocation of US\$12,684,000 (calculated from 4 ACC data sheets). 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.