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Conclusions and recommendations of the Seminar on Co-operation
in the Field of Transboundary Waters

The Seminar on Co-operation in the Field of Transboundary Waters was convened by the Committee on Water Problems of the Economic Commission for Europe, at Düsseldorf, Federal Republic of Germany, from 15 to 19 October 1984. The discussions yielded a set of conclusions and recommendations which are summarized below.

The elementary human right to have access to water of appropriate quality in sufficient quantity was acknowledged, together with the general interest in preventing the overexploitation and deterioration of the resource base.

It was also agreed that fundamental water management principles should be based on integrated management (surface groundwater; quality quantity), demand-oriented management; river basin awareness, long-term planning, an interdisciplinary approach, a combination of structural and non-structural measures, and settlement of disputes by contractual means.

Co-operative measures presenting a wide spectrum of alternatives ranging from co-ordinated measures to comprehensive agreements aimed at co-ordinated management of river basins were also discussed.

The importance of river basins as the proper units for balanced assessment of the situation of international watersheds was stressed, and multipurpose possibilities for international water management were emphasized.

The fundamental principles of harmonious development and equitable use of international rivers and lakes, either successive or contiguous, were reaffirmed, together with the need for reciprocal information and accommodation.

Three levels of co-operation relating to international waters were defined: development of general principles applicable to international river basins; subregional co-operation based on the concept of international drainage basins; and bilateral arrangements for specific measures concerning identifiable sites or boundary regions.

It was also pointed out that the regional problems of the area related rather to issues of water quality than to allocation of quantity or to further development.

The need for institutional mechanisms for joint deliberations and transactional agreements was noted, together with the importance to be attributed to joint commissions as executive instruments for the formulation and/or implementation of treaties or conventions. However, the most essential aspects were considered to be the determination of and the political will of the Governments involved in the co-operative effort.

Some conclusions were related to the application of management tools, such as the joint use of effluent standards and water-quality structures.

The following were reaffirmed: currently accepted principles on exchange of water quality information; early warning systems; concerted flood-control

measures; appropriate institutional structures at the national level; and adequate co-ordination at the national level.

The conclusions of the Seminar which were translated into a set of draft recommendations to European Governments, further stress the principles which are currently accepted or in the process of becoming current patterns for international co-operation.

Thus, the recommendations emphasized the need for common agreement, harmonized development, negotiation and appropriate institutionalization. It was also pointed out that the need for monitoring systems referred not only to surface waters, but to groundwater as well. Pollution control was considered of paramount importance, as well as joint measures for flood control.

A set of recommendations was addressed to the Committee on Water Problems, as guidance for future activities. They included the need for studies on existing international commissions; on the use, conservation and yield of shared aquifers; on the need for a consolidated mapping of the water quality of the region; and on the need to give priority to projects related to the transboundary management of shared waters. Also, it was considered that the topics discussed at the Seminar were highly relevant to other regions and that documentation should be transmitted to the other regional commissions.

A set of draft principles on international co-operation in the field of transboundary waters was issued, stressing that:

"The Charter of the United Nations and the principles of international law accord riparian countries of transboundary waters the sovereign right to use transboundary waters within their territory in accordance with their own environmental policy and impose the obligation to ensure that their activities do not cause appreciable damage to the environment in other countries or in areas outside their national territory. Transboundary waters and catchment areas do not therefore lend themselves to a purely national approach because the effects of natural phenomena and human activities may always make themselves felt across borders. On the basis of the principle of reciprocity and good-neighbourly co-operation, all riparian countries are called upon, in the interest of optimum water-resources management, to co-operate, if at least one riparian country so desires, in the field of:

- (a) Protection of ecosystems, especially the aquatic environment;
- (b) Protection against floods and ice hazards;
- (c) Harmonized use of transboundary waters.

The principle applicable to pollution of transboundary waters is that responsibility lies with the polluter. Differences of opinion (and disputes) between riparian countries must be settled peacefully by mutual consent in conformity with the Charter of the United Nations".

In bilateral or multilateral agreements, countries situated on transboundary waterways should agree to co-operate pragmatically, in order to foster a constant and comprehensive exchange of information, regular consultation and decisions concerning research of mutual concern, developments, objectives, planning

programmes and concrete measures, including the implementation and monitoring of such measures. Each contracting party should commit itself to taking all legislative, organizational and financial measures necessary to achieving the objectives of the agreements.

In addition, the following subjects were covered in the draft principles: conventions and agreements; setting up of joint commissions; the structure and functioning of commissions for the protection of transboundary waters against pollution; the recording and collection of data and information; programmes for the reduction of water pollution within the framework of conventions and agreements; programmes for the reduction of flood risk; the design of warning and alarm systems; and co-operation with international organizations.

From: Report of the Seminar on Co-operation in the Field of Transboundary Waters, held at Düsseldorf, Federal Republic of Germany, 15-19 October 1984 (WATER/SEM.11/3, 26 October 1984).

Subregional Workshop on the Water Resources of the Volta Basin

The Ghana National Committee for the International Hydrologic Programme convened a Workshop on the Water Resources of the Volta River Basin. It was organized within the framework of the International Hydrological Programme (IHP), and was held at Accra from 17 to 21 October 1983.

The Workshop brought together technical representatives of the IHP national committee of the co-basin States of the Volta River for the sharing of knowledge and experience on the state of assessment of the water resources of the Basin.

A main purpose was to look to future co-operation alternatives in assessing the water resources of the Basin in order to meet the socio-economic developmental needs of the Basin States.

Representatives of the IHP national committees of Ghana, Togo and Mali attended the Workshop. The Ambassadors of the Ivory Coast and Upper Volta were present at the opening session, and observers from FAO, WHO and UNESCO participated in the discussions.

Conclusions and recommendations on several issues were agreed upon including: the status and adequacy of hydrometeorological networks; surface water resources; ground-water resources; current and future assessment activities; and future co-operation among the IHP national committees in the Volta Basin.

It was agreed that the hydrometeorological networks, which had been developed on an ad hoc basis, needed a scientific rationale for future and more systematic operation. However, it was underscored that constraints in terms of manpower, equipment and logistic support affected the quality of the data. Since the Basin States faced economic difficulties, it was considered convenient to adapt the data-collecting systems to the situation, through consolidation and cutting back.

The need for normalization, standardization, publication and exchange of data was emphasized. Also, the Basin States were required to continue the programme

for the control of onchocerciasis - at present funded by UNDP and executed by the World Health Organization.

The need to reassess the yield of water conservation structures in light of the drought situation was stressed as a requirement for improved water management. There was also a call for research on water quality and sedimentation, and on the ecological and health impact of water resources development projects.

The status of knowledge on groundwater was assessed, together with the different problems posed by contamination of hand-dug wells, digging in hard formations, and eventual use of groundwater for irrigation. Only vegetable gardens from 1/8 to 1/4 hectare would be considered for irrigation.

Seasonal variations and general quality of groundwater were also discussed, while the need for further research on the influence of the Volta Lake on groundwater levels was brought to the attention of the participants.

Estimates of available water resources in the Volta Basin within Ghana were provided, as were the current and projected water demand for (a) domestic and industrial water supply from surface and groundwater sources; (b) irrigation; and (c) hydropower generation.

From the data it was concluded that there was enough run-off from the Volta Basin within Ghana to meet consumptive use needs for domestic water supply and irrigation for the present and the foreseeable future. However, the generation of hydroelectric power to meet both present and future demands would require flow contributions from the other Basin States.

It was recommended that future assessment should take account of livestock and fisheries development and small-scale gardening by individual farmers. Recreational use of water should also be considered.

It was felt that the socio-economic data against which the water needs were assessed needed to be improved. Another national census would greatly help, since the last was dated 1970. Similarly, improvements in the quality and scope of hydrological and hydrometeorological data should be made as soon as possible.

From the experience being gained with the operation of the Volta Lake, it was considered necessary to review estimates of water availability in the face of climatic variability.

In Togo, ORSTOM co-operates with the national hydrological service, which consists of engineers and technicians planning and carrying out hydrological projects. The activities embrace development and maintenance of hydromet stations, including water-level and discharge measurements; installations of hydrological equipment and publication of hydrological data. On the whole, the hydrological activities are geared towards the exploitation of both surface and groundwater resources for potable water supply purposes, irrigation, livestock, fish and crop farming. A research centre to examine methodologies employed in the exploitation exercise has been set up in the country.

From: Report of the Subregional Workshop on the Water Resources of the Volta Basin, convened by the Ghana National Committee for the IHP, with the support of UNESCO and held at Accra, 17-21 October 1983.

Congress on the Po River

A congress on "The Po, a European River" was organized jointly by the Friends of the Po Association and the Working Party on the Rhine Valley Groundwater and held in Italy from 28 to 31 March 1984.

A comparative presentation of the systems employed for management, protection and use of the water resources of the Rhine, Rhone and Po River basins, led participants at the congress to conclude that there was a need for a European policy for the management, protection and use of river-basin water resources on the basis of systems covering all of the regions included in the river basins.

In the Po basin, it is highly desirable for follow-up action to be taken on the efforts already made by national, regional and local authorities and by the relevant associations, such as the Friends of the Po, in order to establish an interregional body for the purpose of working out and implementing a comprehensive, interregional policy for the management, regulation, use and protection of the water resources employed in the Po basin for human consumption and to meet the needs of agriculture, industry, tourism and navigation.

It was noted with satisfaction that the European experts in attendance, and particularly the Working Party on the Rhine Valley Groundwater, of the Parliamentary Assembly of the Council of Europe, might discuss ways and means of implementing that proposal.

From: Report of the congress on "The Po, a European River", organized jointly by the Friends of the Po Association and the Working Party on the Rhine Valley Groundwater, held from 28 to 31 March 1984 (Sala dell'Alessi, Palazzo Marino, Piazza della Scala, 2 - Milan; Palazzo dei Congressi, Via Bologna, 534 - Ferrara).

Not just water

South Africa has threatened to withdraw from the multimillion dollar Highlands Water Project unless Lesotho signs a "security accord" with Pretoria aimed at countering guerrillas of the African National Congress (ANC) and removing the "threat" they pose to the project. Lesotho has denied the suggestion that the project's security is at risk.

The Highlands Project, which will cost an estimated US\$ 2 billion will involve the diversion of the waters of the Sequ system (known in South Africa as the Orange) to the Vaal, whose basin provides most of the water for the major industrial area on the Witwatersrand around Johannesburg. It will entail construction of a pumping station, tunnels, roads, six dams and two hydropower plants, to provide 35 m³/s of water for export and around 190 MW of hydropower. The Government of Lesotho has overall responsibility, but South Africa is providing consultancy services for that part of the project within its borders.

Water and hydropower have emerged as important dimensions of South Africa's efforts to improve relations with neighbouring States following the signature in January of a non-aggression pact with Mozambique, known as the Incomati accord. Mozambique has since agreed to supply South Africa with electricity from the Cabora Bassa hydropower scheme on the Zambezi, and there have been reports that South African troops are to protect the transmission lines from attack by guerillas

of the Mozambique National Resistance (World Water, September 1984). A joint technical committee of representatives from South Africa, Mozambique and Swaziland has approved, in principle, a plan to build six storage dams on the Komati and Lomati Rivers, and officials from South Africa, Botswana, Mozambique and Zimbabwe have revived a plan for a storage dam on the Limpopo (World Water, August 1984).

From: World Water (October 1984), p. 10.

Skagit River Treaty signed by the United States and Canada

The longest standing major environmental dispute between the United States of America and Canada moved a giant step closer to final resolution when the United States Secretary of State, Mr. George P. Shultz, and Canadian Deputy Prime Minister and Secretary of State for External Affairs, Mr. Allan J. MacEachen, signed the Skagit River Treaty in Washington, D.C. The Treaty commits the federal Governments of both nations to provide federal guarantees to the provisions of a City of Seattle, Province of British Columbia, Agreement which resolves a 42-year, often acrimonious dispute over the proposed Seattle raising of the High Ross Dam and consequent flooding of British Columbia lands.

The Seattle British Columbia Agreement was the result of two years of complex, often intense negotiations under the leadership of the International Joint Commission's (IJC) Joint Consultative Group of the Skagit River. Formally signed by Seattle Mayor Charles Royer and British Columbia Minister of Environment A.J. Brummet on 30 March 1985, the Agreement creates a mutually acceptable alternative to the raising of Ross Dam, something the IJC in April of 1982 stated as its ultimate objective in undertaking to facilitate discussions between the City and the Province. Under the Agreement, Seattle received from British Columbia an amount of energy equivalent to that which Seattle would have realized from the raising of the dam, at a comparable price, thereby avoiding the flooding of the Canadian Skagit Valley. British Columbia realizes an additional increment of energy from the existing Seven Mile Dam on the Pend d'Oreille River. In addition, the Agreement calls for the creation of, and establishes a funding mechanism for, an environmental endowment fund to beautify the existing Ross Dam reservoir and to create additional trails and facilities in the Canadian and United States portions of the Skagit Valley. The establishment of the endowment fund is a unique international enterprise, and will be jointly managed by Seattle and British Columbia.

The next and final step in the Ross Dam process is the United States Senate's advice and consent with regard to the proposed Treaty. The Government of Canada has already undertaken the necessary steps to put the Treaty into effect.

From: Written information submitted to the Department of Technical Co-operation for Development by Mr. Frank Bevaqua, Public Information Specialist, International Joint Commission, United States and Canada.

Meeting of the Organization for the Development of the Gambia River Basin

The six summit meetings held by the Organization for the Development of the Gambia River Basin defined future activities of Organization. The programmes

and priorities envisaged include the construction of a bridge-dam in Ballingho in order to prevent the entrance of saline water into the fresh water of the River and the need to prepare project-stage studies for the building of the reservoir and hydroelectric dam at Kekreti (Senegal), which would irrigate 70,000 hectares and generate 150 MW per year. A feasibility study on the Kouya Dam (Conakry-Guinea) was considered a priority matter.

It was estimated that the financial resources needed for the projects in Ballingho and Kekreti would amount to US\$ 260 million, while the feasibility study on Kouya would require \$2 million.

A meeting of possible lenders and donors will be convened in the near future, in order to obtain resources for the financing of the programmes, which will also have an agricultural component (\$20 million) and health objectives.

The construction of a building at Dakar was also approved, as well as the corresponding budgetary allocation.

The budget of the Organization was also approved, its total amount being 152 million CFA francs. The chiefs of State of the Organization have decided to allocate 8 million écus of European funds for development to a survey of the water resources of the upper basin of the River and to a study of the Koliba Corubal and Kayamba Geba Basins (in Guinea-Bissau). They also approved a convention on the fiscal régime and custom taxes applicable to the studies, surveys and works related to the Organization's programmes.

The next meeting of the Organization is going to take place in June 1986 at Banjul. Mr. Umar Fallov, Minister of Natural Resources of Gambia, was elected president of the Council of Ministers of the Organization.

General Joao Bernardo Vieira, Chief of State of Guinea-Bissau and president of the Organization, insisted that a pragmatic, austere and rigorous approach was needed for the success of the Organization.

From: Marchés tropicaux et méditerranéés, N. 2048 (vendredi, le 8 février 1985), p. 323.

Soviet involvement in international river, lake and basin agencies

The Union of Soviet Socialist Republics is the world's largest State, occupying almost one sixth of the earth's habitable land. It borders on 12 States - viz., Norway, Finland, Poland, Czechoslovakia, Hungary, Rumania, Turkey, Iran, Afghanistan, China, Mongolia and the Democratic People's Republic of Korea.

The use of boundary waters in the Soviet Union conforms to the relevant international agreements. Unless regulated by an international agreement involving the Soviet Union, water use in the Soviet boundary waters is carried out in compliance with the legislation of the Soviet Union and the other Soviet Socialist Republics.

In general, the relations of the Soviet Union with other States, including its participation in the work of international river agencies, are based on the

principles of respect for sovereignty, non-interference in internal affairs, territorial integrity, adherence to the obligations undertaken, and observance of the equality principle.

Co-operation covers water regulation of boundary rivers and streams, flood prevention, integrated use and conservation of water resources, land reclamation, water supply and other fields of water economy. Agreements usually refer to boundary stretches of rivers and streams which either coincide with or cross the border. In a number of agreements, groundwaters crossed by a national borderline are included in boundary waters.

The objective of co-operation is the co-ordinated regulation of hydrological régimes of boundary water courses and joint efforts in the above-named fields. Parties to the agreements have undertaken to carry out no water-related activities in the boundary waters which might adversely affect the water conditions or cause damage on the territory of another party.

Proceeding from the main agreements and conventions, the parties involved occasionally enter into special agreements concerning joint construction of hydraulic structures in boundary waters. So, for instance, the Costesty Stynka Headworks have been built on the Prut River, while the construction of headworks on the Akhuryan River, undertaken together with Turkey, is nearing completion.

The meetings of representatives and joint commissions are convened whenever required - usually once a year - on the territory of each party in turn. Their participants discuss the fulfillment of obligations stemming from the concluded agreements or resolutions of the previous meetings and adopt new decisions and plans for joint activity. All the decisions adopted are included in joint protocols which are subject to subsequent approval by competent authorities.

The meetings of representatives and commissions on boundary waters can set up joint working or expert groups to deal with individual problems. Thus, functioning within the framework of the Soviet Polish meeting of representatives are a working group on the planning of water management in boundary waters, a working group for control over the quality of boundary waters, a working group on hydrometeorology, and a working group on land reclamation and the regulation of boundary river channels, which usually meet twice a year. Three expert groups are set up within the working group on planning, in order to draw up water budgets of boundary rivers, to elaborate on the Wlodawa Reservoir Project on the boundary river of Zapadny Bug, and to prepare the flood control project for the Zapadny Bug flood plain.

When taking up joint construction of large hydraulic structures on boundary rivers, the parties involved set up special mixed commissions to tackle various problems and co-ordinate the actions in construction and operation of the common facilities.

Although the meetings of representatives and joint commissions on boundary waters have no standing secretariats, secretariat services are available in the national sections of those bodies. The secretariats do the current work on implementing the decisions of meetings of representatives and joint commissions and co-ordinate the actions taken by national water management organizations in putting through the decisions.

A typical example is the Agreement on Boundary Water Systems between the Soviet Union and Finland, which was signed on 24 April 1964 at Helsinki and came into force on 6 May 1965. The Agreement envisages quantitative and qualitative protection of water resources as well as their rational and integrated use in the Pasvik, Tuloma, Kemi, Olanga, Onlu and Vuoksa Rivers, and others. The Soviet Finnish Commission on the use of boundary water systems was established in compliance with Article 6 of the Agreement. The Commission consists of Soviet and Finnish sections and is convened once a year, alternating between the territories of the Soviet Union and Finland.

Co-operation in water management among the socialist countries of the region, which the Soviet Union belongs to, is carried out within the framework of the Meetings of Heads of Water Authorities of CMEA-member countries. The Meetings handle the following basic problems:

- (a) The demand by all economic branches and population for water of a required quality;
- (b) Protection of water bodies against pollution and depletion;
- (c) Improvement in the efficiency of water resources development and capital investment by reducing expenditures etc.

Co-operation involves the co-ordination of joint research and engineering efforts and the exchange of scientific, technical, economic, methodological, normative and legislative information as well as data on experimental investigations.

The principle of division of labour and concentration of material resources in solving top-priority water management problems, accepted in CMEA-member countries, is conducive to curtailment of relevant research costs, substantial decreases in the time taken for data processing and quicker introduction of research findings into practical operation. About 100 research institutes and design organizations of CMEA-member countries are involved in developing joint solutions to water management problems, including the use and conservation of international waters on a bilateral and multilateral basis.

From: A paper submitted by Mr. V. Plechko, Deputy Permanent Representative to the United Nations of the USSR.

Workshop on the Resolution of International River Basin Conflicts

A Workshop on the Resolution of International River Basin Conflicts is being organized by Dr. Evan Vlachos from Colorado State University and will be held in Vienna, Austria during the third quarter of 1986.

The purpose will be to examine from three to five cases of international conflict over the allocation of water and use of shared river basins, using a policy system model as the framework for the analysis. The objectives are to focus attention on the political processes followed in each country which determine the outcome of negotiations. The results of those analyses should help Governments to identify national and international factors influencing decisions and suggest an effective pre-negotiation approach for resolving that type of international conflict. Speakers will present selected cases, following

a suggested outline, described below. The cases presented may include conflicts between India and Pakistan; Brazil, Paraguay and Argentina; Portugal and Spain; Egypt and Sudan; Peru and Bolivia; Kenya and the United Republic of Tanzania; or others.

After the presentation of the case studies, the participants will discuss the various public policy aspects of each conflict, addressing the following questions:

- (a) How the need for governmental action was identified and defined, and by whom;
- (b) What specific information was gathered, by whom, how valuable it was etc.;
- (c) How goals were set and at whose request, nationally and internationally;
- (d) What specific demands for governmental action were made in each country, and by which influencing agents;
- (e) Which governmental decision makers set policy and allocated authority and resources for implementing those policies; and
- (f) Which bureaus carried out authorized actions, their outputs and outcomes, and how they fed back into the political and operational systems of each country.

Call for documents and participation in the information exchange

In view of the scope and purpose of the Newsletter, the editor would like to encourage all those who are in a position to do so to contribute to the information exchange exercise with news items or documents of relevance to the Newsletter. An encouraging response has been registered thus far, and it is firmly hoped that a growing network of interested readers will be willing to take part actively in this novel exercise.

Individual copies of the Newsletter are available on request. Requests should include the names and addresses of offices and officials wishing to receive copies.

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