UNITED NATIONS

ECONOMIC COMMISSION
FOR LATIN AMERICA
AND THE CARIBBEAN - ECLAC

Distr.
GENERAL

LC/G.1468(Sem.38/3)
5 October 1987

ENGLISH
ORIGINAL: SPANISH

REPORT OF THE EXPERT MEETING ON HORIZONTAL CO-OPERATION IN WATER RESOURCE MANAGEMENT IN LATIN AMERICA AND THE CARIBBEAN

(Santiago, Chile, 18-21 May 1987)

87-8-1202

CONTENTS

I. ORGANIZATION OF WORK

Place and date

1. As part of the activities of the project entitled "Horizontal Co-operation in Water Resource Management in Latin America and the Caribbean", sponsored by the Government of the Federal Republic of Germany, an Expert Meeting on Horizontal Co-operation in Water Resource Management in Latin America and the Caribbean was held in Santiago, Chile from 18 to 21 May 1987.

Attendance

2. Specialists from the different countries of the region participated in the meeting. Officials from international and bilateral agencies also attended (see list of participants in annex 2).

Agenda

3. The following agenda was adopted:

1. Opening meeting.
2. Overview of water resource management today.
3. Recent experiences in water resource management in Latin America and the Caribbean.
4. Major current issues regarding water resource management in the region.
5. Water resource management in the region from the practical of viewpoint.
6. Overview of the project "Horizontal Co-operation in Water Resource Management in Latin America and the Caribbean".
7. Measures for improving the exchange of experience among institutions responsible for the management of large-scale water resource systems.
8. Basic elements of water resource management.
9. The teaching of water resource management.
10. Elements for a horizontal co-operation system to teach water resource management.
11. Adoption of the final report.

Opening meeting

4. At the opening meeting, Mr. Norberto González, Executive Secretary of ECLAC, spoke on behalf of the Organization and stressed the importance given

to water resources within ECLAC's Programme of Work and the long period during which this subject had been dealt with by the Organization.

5. The next speaker, Mr. Adolf Ederer, representing the Government of the Federal Republic of Germany, highlighted his government's interest in co-operating with ECLAC in activities of this kind and the particular importance of water resource management for economic and social development in general.

II. SUMMARY OF DISCUSSIONS

Overview of water resource management today (agenda item 2)

6. In introducing the topic, Mr. Guillermo Cano stressed the following factors of decisive importance in the present situation regarding water resource management in Latin America and the Caribbean: a) popular participation in the policy-making process; b) the absolute need for information on water resources, both in order to make decisions and to inform others; c) the need to discuss the use to be made of the products from water development and the respective costs; d) the desirability of enlisting multiple media, and not just those connected with water, for multiple purposes; e) the awareness that the failure to carry out maintenance now will place a burden on future generations; f) the fact that the developed countries donate or sell at high prices technology which is unsuitable, obsolete, or which has been abandoned in the countries of origin; g) the frequent confusion between the different functions of the State: legislative, regulatory, entrepreneurial, jurisdictional and advisory, especially the first two; h) planning and management by works and not, as should be the case, by river basins; i) the importance of ensuring that changes in water use are in keeping with changes in population distribution and technological progress; and j) the absence of any tradition of user participation in many countries of the region which affect efficient management.

7. In conclusion, he recommended that a number of matters should be examined by the meeting, such as the need for regional horizontal co-operation in water management to include all of the Spanish- and Portuguese-speaking countries both inside and outside the region; the desirability of ECLAC reopening its file of water resource field missions to evaluate the results of their recommendations; the comparison among autonomous water resource management systems, with the aim of exchanging management experience; co-ordination among international agencies; examination of the role of non-governmental organizations and of private professionals, and the organization of interdisciplinary management training courses.

8. In the discussion following Mr. Cano's presentation, it was agreed that the document contained a number of aspects which could serve as a basis for examining the present situation as regards water resource management in Latin America and the Caribbean.

9. In particular, some experts stressed how important it was for the governments themselves to promote the improvement of water resource management mechanisms internally, especially to prevent and resolve conflicts in the

development of multiple water uses. The experts were insistent that without this effort to increase awareness in each of the countries, none of the decisions taken at the meeting in particular and in the course of the work of ECLAC in general would have the desired effectiveness. It was further agreed that it was important to include the English-speaking countries of the region in any efforts to develop horizontal co-operation in water resource management, because despite their legislative differences, their management problems were similar.

Recent experiences in water resource management in Latin America and the Caribbean (agenda item 3)

10. Discussion of this subject centered on the presentation of the four case studies conducted within the framework of the project:

a) Study of the Tinajones water system, Lambayeque - Peru (LC/R.568).
b) Case study: the Bogotá river basin system (LC/R.572).
c) The Limarí-Paloma Water System: Case Study in Chile (LC/R.573).
d) Analysis of irrigation management in Mendoza: the determining social, institutional, legal and administrative factors (LC/R.574).

Water resource management in the region from the practical viewpoint (agenda item 5)

11. Brief reports were submitted on the experience gained in the following countries of the region: Argentina (the province of Mendoza), Brazil, Colombia, Chile, Jamaica and Peru. Despite the diversity of approaches in the presentations and the differences in the experiences and water conditions of the countries, the most striking fact in the discussion of this item was the similarity of the experience of management problems, such as co-ordination between and within institutions of the sector, the development of suitable information systems, the optimal distribution of managerial activities, the importance of periodic renewal of the institutional and legal system, etc.

12. At the end of the discussion it was clearly established that there was general interest in the problem of water resource management especially with respect to the real differences between the specific situations of each institution and country.

Overview of the project "Horizontal Co-operation in Water Resource Management in Latin America and the Caribbean" (agenda item 6)

13. A brief presentation was given on the scope of the project entitled "Horizontal Co-operation in Water Resource Management in Latin America and the Caribbean", highlighting the reasons for the development of the project and the conclusions being reached.

14. A summary was then presented of the proposal for a second phase of the project, which would comprise the following activities:

a) Promotion and organization of a regional co-operation network between the institutions responsible for managing complex water resource systems.
b) A survey on the region's needs for managers and administrators.
c) The preparation, based on the results of the survey, of proposals for improving or changing the type of training given to water resource managers in Latin America and the Caribbean.
d) The organization of a regional meeting among the institutions concerned, both multilateral and national, to discuss the proposals for improving training at the regional level and to make recommendations for carrying out the measures suggested.
e) The holding of three or four courses for water resource managers in co-operation with both national and international training institutions. These courses would be given at the subregional level in order to establish common interests and experiences among the participants.

15. During the discussion which followed, several participants stressed the need to include water users in any co-operation effort.

Basic elements of water resource management (agenda item 8)

16. The discussion of this item centered upon the presentation of a possible frame of reference for analysing activities of water resource management (document LC/R.576). The framework presented included the following considerations:

a) General conditions for water resource management.
b) Conceptual analysis of water resource management.
c) Structure of the authority responsible for managing the project.
d) Management activities of the authority responsible for the project.
e) Obtaining resources for the operation and maintenance of the project.
f) Norms for the operation of the physical infrastructure.
g) Norms for the maintenance of the physical infrastructure.
h) Financial management and budgets.

17. In the discussion of this topic, views were exchanged on the different ways of structuring institutions for water resource management and the importance of the role of models in improving the institutional organization.

The teaching of water resource management (agenda item 9)

18. Discussion of this agenda item centered on the presentations made by the following training institutions in the field of water resources and business administration: National Institute for Water Science and Technology (INCYTH), Argentina; Inter-American Center for the Integral Development of Land and Water Resources (CIDIAT), Venezuela; Inter-American Institute for Agricultural Co-operation (IICA), Costa Rica; Inter-American School of Public Administration of the Getulio Vargas Foundation, Brazil, and the Central American Institute of Business Administration (INCAE), Costa Rica.

19. Each institution described in its presentation how its courses were organized and how its training programmes functioned. Some details were also provided on courses of particular relevance to the subject of the meeting.

III. RESULTS OF WORKING GROUP DISCUSSIONS

Major current issues in water resource management in Latin America and the Caribbean (agenda item 4)

20. For the discussion of this topic, the integral water management of a given socio-economic region in a given physical-ecological environment was defined as the set of activities and actions comprising: a) formulation of the major objectives of political and social efficiency, preservation of the quality of environment and fairness in the allocation of water; b) planning of the multiple uses of water at the general and sectoral levels; c) co-ordination among the different executing agencies of the region and the agencies of other regions with which there is interactions; d) laying down the rules of the game and settling conflicts in the allocation of water and control of its use; e) preparation of suitable management instruments, especially: i) the information system (covering hydrological, quality, economic, financial, and other variables, that permit the construction of management indicators to form the basis for decisions) and ii) the financial system (which includes budgetary and pricing instruments).

21. The overall management must be endowed with the following attributes which are considered basic for the quality, scope and future viability of the management: a) a high-level mechanism within the governmental co-ordination structure; b) the decentralization of actions and activities; c) the effective participation of users at the appropriate levels of management (from the presentation of objectives to water management) through appropriate agencies; d) a suitable level of autonomy for management, and e) the maintenance of management mechanisms which have maximum operational flexibility to enable them to adapt effectively to changing situations.

22. The solution of major water problems calls for a decision-making process, based upon the use of criteria such as those adopted in strategic planning, whereby water is conceived as a subsystem interacting with all other physical and social systems.

23. Among the most important topics identified in connection with water resource management, the following should be underlined:

a) The legal system: the need to adjust the legal infrastructure to ensure better water management.

b) The institutional organization: the desirability of avoiding administrative dispersion and jurisdictional overlapping of the existing agencies related to water resource management, which is a particularly serious problem in the case of river basins coming under more than one jurisdiction.

c) Allocation of use: desirability of solving problems of water allocation both between sectors and between users within the same sector.

d) The environmental impact: the need to provide for and control the environmental repercussions of water use, such as water pollution, externalities or effects on third parties, etc.

e) User participation: the need to create means for user and involved sector participation in decisions and in the management at the appropriate point.

f) Human resources: the desirability of providing the management agencies with human resources trained both in their professional specialties and in management.

Measures for improving the exchange of experience among institutions responsible for the management of large water resource systems (agenda item 7)

24. The following ways of improving exchanges among institutions responsible for the management of large-scale water resource systems were highlighted:

a) The need for internal evaluation by the agencies or bodies concerned, in order to identify their training requirements. This evaluation should be oriented towards identifying the topics which should serve as the basis for the exchange of experience.

b) The usefulness of the existence of an interrelation between the agencies responsible for the management of water systems and those responsible for research in the field of water resources; in fact, feedback between these two groups is vital.

c) Development of an overall methodology for drawing up a dynamic management system, since although training is essential it cannot solve all management problems. This methodology should include, inter alia:

i) the improvement of management methods; and
ii) the improvement of the level of basic knowledge.

d) The creation of an internal system to motivate managers to introduce changes, because although the exchange of personnel among countries is useful, it is not in itself the best way of improving water resource management.

e) Co-operation among countries in the area of water resources as a long-term activity, in order to maximize the benefits from it.

25. Various measures for achieving better institutional co-operation were suggested, such as:

a) Periodic meetings among autonomous agencies or enterprises which manage river basins or water systems to exchange experiences.

b) Periodic meetings between international and bilateral agencies working in the field of water resources.

c) The preparation of a strategy for making a comprehensive inventory of all the water resource management institutions (including training institutions), using the models already developed in the region, and the urging of governments to make such an inventory and to communicate the results in order to facilitate their comparability.

d) The establishment of a subregional centre in the Caribbean to act as a co-ordination centre for horizontal co-operation, in view of the special problems of the small islands, which usually have only a single professional official in charge of water resources.

e) The incorporation of these activities by ECLAC into its programme of work, so as to activate its catalytic force to promote co-operation among countries and the allocation of multilateral or bilateral funding.

Elements for a horizontal co-operation system to teach water resource management (agenda item 10)

26. In the discussion on this topic, the conclusion was reached that the development of horizontal co-operation to teach management should be accompanied by a fuller knowledge of how water management is organized in the countries of the region.

27. In particular, the working groups arrived at the conclusion that there is a lack of systematic knowledge of how the water sectors in the majority of countries of Latin America and the Caribbean are organized and how they operate, while there is no proper identification of their problems either. This lack of knowledge not only prevents the solution of many problems but also hinders effective horizontal co-operation. Although there is almost unanimous agreement that training is needed fundamentally at the political and managerial levels, the lack of knowledge prevents any progress from being made as to what the features the training offered should have.

28. It was suggested that ECLAC should urge the managerial institutions of the countries of Latin America and the Caribbean to carry out studies covering the legal, organizational, institutional, financial, economic, physical and technical aspects of water resources, using a common methodology based on the preparation of a typology of the existing forms of management, both inside and outside the region. Such measures would make it possible to carry out diagnoses on the basis of which, in the light of the managerial systems used in each country, specific lines of action could be identified in each case and the elaboration of integral development plans could be encouraged. In this connection, it was suggested that:

a) the studies should be conducted by interdisciplinary teams from each country;

b) the partial results thus obtained (surveys of the information, diagnoses and proposals) should be presented by the teams at seminars in order to expedite co-operation through the exchange of experience, and

c) on the basis of the initial efforts, each country should take the necessary steps to keep the information up to date. In this way, institutional co-operation could be made continuous within each country and among the countries.

29. In addition, it was considered necessary that ECLAC should promote a survey of institutions providing training in water resources, with specific reference to managerial aspects, using a methodology which would enable a comprehensive analysis to be made of existing agencies, experience, the methodological profile of the courses, the teaching capacity, etc. That would permit a comparative analysis of the cases and provide details of the regional supply in that area. Similarly, it was recommended that a survey should be made of training needs, by country. The importance of establishing a Latin American and Caribbean system of co-operation in water resource management training was emphasized.

30. As a contribution to the knowledge available on the various possibilities for improving water resource management in Latin America and the Caribbean, the Getulio Vargas Foundation offered to draw up a typology of management techniques, with special reference to water resources.

31. One expert reported that an international course on the global management of water resources was being organized in Brazil by the National Department of Water and Electric Power (DNAEE), under an agreement with UNESCO. The programme embraced juridical-institutional and administrative matters as well as the technical aspects of hydrology and water engineering. A national course would be held in 1987 to help the states to organize water resource management agencies. ECLAC's support was requested in order that representatives of the Latin American and Caribbean countries could attend.

32. Another expert mentioned the Postgraduate Course on the Integral Management of Water Resources given by the Centre for Water Economics, Legislation and Administration (CELA). The programme was designed to train officials from water management agencies, he said, and the next course would be held from 15 August to 15 November 1988. Fellowships would be offered to facilitate participation by officials from the region. In 1987 the course would be organized at the national level, for which ECLAC's support was requested. One of the purposes of the course was, initially, to transfer technology so that water resource management agencies could be set up in the states. With ECLAC's support, it would be possible to include countries from Latin America and the Caribbean in the course planned for this year.

IV. CONCLUSIONS AND RECOMMENDATIONS OF THE MEETING

33. As the main conclusion of the meeting, the experts requested that ECLAC should consider the following recommendation in its Committee on Water at its next session:

1. Considering the urgent need to initiate a process to improve water resource management in Latin America and the Caribbean in order to deal with problems of multiple use of water;

2. Considering that this process can become a reality only through the mobilization of the entire community involved in various ways in matters related to water resources;
3. Considering that the decentralized and participatory decision-making process is the most efficient and rational one for dealing with matters regarding water resources; and
4. Considering the need to guarantee the continuity of the process in the different countries of Latin America and the Caribbean.

It is recommended:

That a wide-ranging debate should be started in each country on the ideas and recommendations emerging from this meeting and that these discussions should, inter alia, address the following issues or centre on the following topics:

a) What is to be understood by water resource management?
b) What are the needs as regards the formulation in each country of water use policies backed up and approved by the respective legislative power?
c) How desirable is it to establish a top-level agency in each country responsible for formulating and managing its respective water use policies?
d) How important is it for each country or State (as appropriate) to have a single water resource management institution with clearly defined duties and management responsibilities?
e) How important is it to create a river-basin committee for each basin which guarantees the participation of public and private users, as well as the organized community, in the decision-making processes? What characteristics and functions should the "river-basin committees" have?
f) How important is it to conduct a comparative study of legislation with a view to modernizing the laws regarding water, clarifying the responsibilities and competence of the various agencies working in the area of water resources, and regulating the use of surface, underground and meteoric water?
g) How can mechanisms be established to permit the determination of scales of charges to cover not only the cost exploitation of the resource but also management costs?
h) What are the most appropriate and efficient ways of training and keeping personnel in water resource management?

It is also recommended:

That a regional effort should be made to improve training at the political, managerial and operational levels and at that of the users themselves. This improvement should be made on the basis of the existing regional centres for training in water resources and business administration, such as CELA/INCYTH, CIDIAT, IICA, the Getulio Vargas Foundation and INCAE, and should take advantage of their experience.

Lastly, it is recommended:

That the continuity of the process should be guaranteed, once it has been started, through the holding of regular meetings under the sponsorship of the international agencies working in the field of water resources such as ECIAC, FAO, UNDP and UNESCO. These regional meetings would facilitate the consolidation of the foregoing proposals and would make it possible to reach agreement on a final proposal for approval at a general meeting, whose date and place would be fixed in due course.

34. The experts present at the meeting undertook to inform their governments of the draft recommendations and to promote the initiation of a debate on adapting water resource management in their respective countries to contemporary conditions.

35. The experts expressed their deepest thanks to the Government of the Federal Republic of Germany for its generosity in making the meeting possible.

Annex 1

LIST OF DOCUMENTS

Working documents

1. Provisional agenda (LC/R.575(Sem.38/1)).
2. Management and water resources in Latin America and the Caribbean (LC/R.571(Sem.38/2)), 24 April 1987.

Reference documents

3. Study of the Timajonas water system, Lambayeque - Peru (LC/R.568).
4. Case study: the Bogotá river basin system (LC/R.572).
5. The Limarí-Paloma Water System: Case Study in Chile (LC/R.573).
6. Analysis of irrigation management in Mendoza: its social institutional, legal and administrative factors. Summary (LC/R.574).
7. Frame of reference for analysing activities of water resource management (LC/R.576).

Annex 2

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