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REPORT OF THE SECOND REGIONAL SEMINAR ON PROGRESS AND  
PROSPECTS FOR THE ENVIRONMENTALLY SOUND MANAGEMENT OF  
URBAN AND INDUSTRIAL WASTE

(Santiago, Chile, 30 August-1 September 1994)

Workshop on the formulation of phase III  
of the ECLAC/GTZ project

(Santiago, Chile, 2 September 1994)

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## INTRODUCTION

This report contains a description of the organization, development and conclusions of the Regional Seminar on Progress and Prospects for the Environmentally Sound Management of Urban and Industrial Waste, held at Economic Commission for Latin America and the Caribbean (ECLAC) headquarters in Santiago, Chile, from 30 August to 1 September 1994.

This seminar was held as part of the activities for the ECLAC/German Agency for Technical Cooperation (GTZ) project entitled "Guidelines and Consultancy Services on Controlled Environmentally Sound Waste Management" which is being implemented by the Joint ECLAC/United Nations Environment Programme (UNEP) Development and Environment Unit of the ECLAC Environment and Human Settlements Division.

One of the objectives of the seminar was to publicize and review the results at the regional and country level of phase II of the project, formulate conclusions and recommendations from the plenary meetings and obtain an overview of the most recent technological advances in urban and industrial waste management in the region, with a view to envisaging outstanding issues and future tasks to be undertaken in the next few years. To that end, representatives of the counterparts and other delegates from the public and private sectors in the six countries which have participated in the project, namely, Argentina, Brazil, Chile, Colombia, Costa Rica and Ecuador, were invited to attend.

A further objective of the seminar was to summarize and analyse international experience in the formulation and application of policies for the environmentally sound management of urban and industrial waste. For this reason, GTZ representatives and consultants were invited to participate; they provided especially useful background information on German and European Union experience in waste management.

Lastly, the opportunity was taken to extend invitations to a broader range of professionals in the Chilean public and private sectors, who were able to acquaint themselves with and discuss the experience gained in waste management in the six countries participating in the project, as well as the presentations and talks given by the GTZ representatives.

## A. ATTENDANCE AND ORGANIZATION OF THE SEMINAR

### Place and date

1. The Regional Seminar was held at ECLAC headquarters in Santiago, Chile, from 30 August to 1 September 1994.

### Attendance<sup>1</sup>

2. The Regional Seminar was attended by a total of 90 persons from various public and private institutions in the six countries which have participated in the project. The participants included ECLAC experts and professionals, official delegations from the national and municipal institutions which serve as country counterparts for the project, GTZ representatives and consultants, national and regional consultants from the countries participating in the project and representatives of business organizations, universities and non-governmental organizations dealing with the subject of the Seminar.

### Opening and closing meetings

3. The opening meeting was attended by Mr. Gert Rosenthal, Executive Secretary of ECLAC; Mr. Werner Reichenbaum, Ambassador of Germany; Mr. Fernando Castillo, Superintendent of the Santiago Metropolitan Area; and Mr. Jaime Ravinet, Mayor of Santiago. Each of these persons made a brief presentation on the importance of the Seminar and the interest of the various institutions in the topic under discussion, expressing the hope that the Seminar's analysis and discussion of the various items would be fruitful. Next, Mr. Nicolo Gligo, Coordinator of the Joint ECLAC/UNEP Development and Environment Unit of the Environment and Human Settlements Division, gave a talk from a regional perspective on the Division's work on the issues of environment, sustainability and waste management.
4. At the closing meeting, the conclusions and recommendations document prepared with the participation of all delegations was read out, and a brief discussion of the document took place. The floor was then given first to Mr. Peter Jensen, Officer-in-charge of the ECLAC Environment and Human Settlements Division, who congratulated the participants on the work done and, at the same time, stressed the need to strengthen the existing links between environmentally sound management of urban and industrial waste and other matters dealt with by the Division, especially those relating to human settlements and urban management. Next, Mr. José Goñi, Executive Secretary of the National

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<sup>1</sup> See list of participants in annex 1.

Environment Commission of Chile (CONAMA), outlined the objectives and scope of the work undertaken by his institution and the importance which CONAMA attached to environmentally sound management of urban and industrial waste. Lastly, Mr. Klaus Kresse, GTZ Regional Sectoral Coordinator for Latin America and the Caribbean, ended the closing meeting by congratulating ECLAC and those who had worked on the project on the achievements made in each of the participating countries and stressing the importance of the Seminar as a way of bringing the countries together and promoting horizontal cooperation between them. He also noted that the project did not always have the benefit of international experience in the matter under consideration, especially that of the European Union and, specifically, German experience.

#### Agenda

5. The agenda of the Regional Seminar was as follows:
  1. Election of the Presiding Officer.
  2. Adoption of the agenda.
  3. Development and environmental sustainability.
  4. Urban and industrial waste in the region.
  5. An integrated policy of environmentally sound waste management.
  6. Strategic, economic, legal, institutional and political aspects of a policy of environmentally sound waste management.
  7. Legal, economic and management instruments of an integrated waste management policy.
  8. Links between planning and urban management and an integrated waste management policy.

Annex 2 contains the annotated agenda.

#### Presiding Officer

6. The Seminar was coordinated by Mr. Hernán Durán de la Fuente, Chief Expert of the ECLAC/GTZ project.

### Organization of the Seminar

7. The working meetings of the Seminar commenced with a detailed presentation by Mr. Hernán Durán concerning the project objectives in phase II, the conceptual framework which the project's central team had developed, the strategy followed for achieving the objectives, the activities undertaken for their achievement and the results obtained through the project, both at the regional level and in the participating countries.

8. Subsequently, during the first two days of the Seminar, the delegations from the six countries presented case studies; these alternated with presentations on substantive topics by ECLAC experts and GTZ international consultants.

9. The order of priority used for the case study presentations, which did not imply any substantive priority, was as follows: Córdoba, Argentina; Campinas, Brazil; Costa Rica; Quito, Ecuador; Chile; and, lastly, Cartagena, Colombia. Those taking part in the case study presentations included the official representatives of the project counterparts —national or municipal authorities, depending on the scope of the project in each of the countries— representatives of government technical agencies specializing in environmental management, national consultants hired for the project and representatives of private-sector organizations. Each case study presentation was followed by a round of opinions, questions and comments from the Seminar participants on the experience of the countries.

10. The substantive topics were addressed by ECLAC and GTZ experts with the aim of providing an overview of the most recent technological advances in areas of great relevance to the project objectives. In each case, following the main presentation, the Seminar participants made comments and raised questions.

11. First, Professor Eckard Rehbinder, lawyer, legal expert and GTZ consultant, spoke on "Legal and institutional aspects of the policy of environmentally sound waste management in the Federal Republic of Germany". Professor Rehbinder subsequently gave a second talk on "Analysis of environmental auditing and other instruments of environmental management in the European Union".

12. Next, Mrs. Carmen Artigas, ECLAC legal expert, made a presentation on "Legal and institutional aspects of the policy of environmentally sound waste management from a regional perspective".

13. Lastly, Mr. Gonzalo Cubillos, ECLAC/GTZ project consultant, spoke about the application of the "polluter pays" and precautionary principles and presented an analysis of legal provisions in the countries participating in the project.

14. On the third day of the Seminar, round-table discussions were held on topics relevant to the development of the project, with the participation of ECLAC experts, GTZ consultants and delegates from the participating countries. In each discussion the participants had an opportunity to raise questions or make comments.

15. First, Mr. Victor Bolano, GTZ consultant, Mr. Jairo Tardelli Filho, engineer at the Environmental Sanitation Technologies Company (CETESB) of São Paulo, Brazil, and Mr. Jairo Puente, engineer at the National Institute for Renewable Natural Resources and the Environment (INDERENA), Colombia, participated in a round-table discussion entitled "Technical analysis of urban and industrial solid-waste

treatment in the countries participating in the project and criteria for formulating technical rules for its control and monitoring. State of the art world-wide".

16. A second round-table discussion, with the participation of Mrs. Silvana Giaimo, Coordinator of United Nations Development Programme (UNDP)/Municipality of Cartagena project COL 93/004, and Mr. Pablo Jordán, ECLAC expert, dealt with the topic "Strategic plan for Cartagena, Colombia, urban development and environmental management in the region".

17. A third round-table discussion, in which statements were made by Mr. Juan Pablo Monzón, consultant for Costa Rica, Mr. Jorge Jurado, engineer at the National Financial Corporation of Ecuador, and Ms. Marianne Schaper, Mr. José Leal and Mr. José Miguel Arteaga, ECLAC experts, was held on the topic of "Regulatory and economic instruments of environmental management".

18. The closing meeting was then held, at which the conclusions and recommendations of the Seminar were read out and discussed. The statements made at that meeting subsequently served as a basis for the preparation of the final document.

## B. CONCLUSIONS AND RECOMMENDATIONS OF THE SEMINAR

19. The final document adopted, containing the conclusions and recommendations of the Regional Seminar on Progress and Prospects for the Environmentally Sound Management of Urban and Industrial Waste, includes the following points:

20. The Seminar, featuring a joint presentation by the various countries —Argentina, Brazil, Chile, Colombia, Costa Rica and Ecuador— in which the project on environmentally sound management of urban and industrial waste had been carried out, was deemed highly relevant. Such horizontal exchanges between countries in which the socio-economic and cultural conditions were more or less similar allowed for a comparative analysis of the various stages of the process and the specific characteristics of each country. The Seminar made it possible to evaluate the desirability of intensifying exchanges of information and experience between cities, states and countries regarding the various types of waste management.

21. The participants in the Regional Seminar endorsed the project's integrated approach and deemed it necessary and appropriate for the project to continue providing support, advice and technical cooperation to the counterparts of the countries in which it had been carried out with a view to capacity-building and training in those countries, the development of appropriate instruments, the strengthening of the governments' operational capacity and the encouragement of more appropriate conduct on the part of waste generators.

22. The project should continue working with the public and private sectors, universities and non-governmental organizations, thus strengthening the opportunities created for collaboration in environmental management.

23. The project should continue to support incorporated localities so that the actions undertaken in each of them could become pilot experiments which could be repeated in cities with similar conditions or in broader areas.

24. The project should support municipalities in their efforts to publicize sources and mechanisms for financing of environmentally sound waste management by multilateral institutions.

25. There was a clear need for capacity-building if there was to be a real development of management, human resources training and the creation and proper selection of legal and economic instruments —regulatory and market instruments— that were in keeping with regional realities, the specific characteristics of the countries and/or municipalities concerned and the objectives of environmentally sound waste management.

26. With regard to economic and financial aspects of waste management, a study of the rate systems in force in the countries and the development of measures for upgrading them were recommended. In this

connection, the experience of those countries which had attempted to link waste collection rates to the rates of other basic services, such as electricity, water, sewage, etc., was of interest.

27. With regard to legal aspects, there were a number of widely accepted principles in Latin America, such as the "polluter-pays", the precautionary and the "proximity" principles, as well as "product life-cycle liability" or "cradle-to-grave liability", which should be incorporated into the legislation of the countries in the region.

28. The effective application of the above-mentioned mechanisms must be accompanied by a strengthening of citizen participation structures and mechanisms, both formal and informal, and by the possibility of negotiation between the actors and sectors involved. There should be greater coordination and a search for consensus among the relevant actors. The search for joint and comprehensive solutions in which all would cooperate was recommended. The experience of citizen participation, especially in the cases of the municipalities of Campinas, Brazil, and Córdoba, Argentina, showed that giving the community a share in the various stages of waste management facilitated the development and application of such stages. Such involvement must be in keeping with local realities.

29. Increased horizontal cooperation between counterparts and at the regional level in general should be encouraged with a view to an ongoing analysis of project evolution and enhancing the management alternatives adopted by the countries. That would allow for an analysis and selection of instruments adapted to each region.

30. In the technical sphere, environmental controls, which in many cases already existed, must be applied. Their development and application should be the outcome of intense political negotiations among the actors concerned, namely, the public, environmentalist groups, universities, entrepreneurs, public authorities and government in general, so as to ensure their effectiveness. In the process of developing such controls, it was essential that there should be a prior analysis of the institutional capacity for their implementation, in terms of the need for human, financial and technical resources.

31. The application of techniques for and experience in preventing, reducing, recycling, collecting, treating and finally eliminating existing waste must be improved and intensified. All environmentally sound processes which promoted effective ways of reducing waste generation should be encouraged. Such efforts to change production systems should be implemented despite limited economic results and reduction in the volume of waste.

32. In the area of handling and disposal of household and some industrial waste there was an opportunity for direct cooperation with the community through a micro-enterprise scheme. That experience, which had been tested in some countries participating in the project, could have advantages which were not limited to more efficient collection and disposal of waste or to economic benefits for the community, but which could strengthen the social fabric and develop a sense of solidarity within the community, as well as improve the quality of life in the various participating sectors.

33. If a waste management policy was to be implemented, especially in accordance with the project's integrated approach, it must be related to urban development and planning of the use of space, in other words, to a definition and execution of plans, rules and actions relating to land use and occupancy. Such joint work was important for the preservation and restoration of the environment and natural resources and, accordingly, for the quality of urban life.

34. In regions which were highly urbanized or in the process of becoming conglomerates, the issue of urban and industrial waste management should be approached from a regional perspective; solutions must be found at that level to problems of a varying nature, such as political and institutional difficulties and equitable sharing of the costs and benefits of the solutions adopted.

35. There was a need to find financial solutions to sound urban and industrial waste management, since the resources stemming from current rates and taxes could not cover the costs of installing, maintaining and operating waste-treatment systems, nor were they in keeping with the "polluter pays" principle.

36. Further research was needed on the topic of the handling, transport, control and final elimination of hazardous waste. It was necessary to define clearly the concepts and characterizations of that category of waste, promulgate and implement the relevant legislation, generate the requisite information, with lists by country, region, city and municipality, and seek appropriate economic instruments to encourage ways of minimizing it. Appropriate technologies for the treatment of hazardous waste, especially incineration, must be studied in detail. Technical, economic and environmental impact studies were needed. In that connection, an increased exchange of experience between countries was recommended.

37. It was recommended that strategies should be formulated to prevent the uncontrolled movement of waste between countries in the region; it should be stipulated that waste should be eliminated in the country of origin, in accordance with the principle of proximity and the legislation of the country concerned. That principle must also be assimilated by local administrations if municipalities and the private sector were to assume responsibility for treating the waste they generated. It was recommended that the project should have a more active role in disseminating and promoting the agreements concluded under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

38. Special emphasis was given to the need to establish incentive systems and motivations for enterprises and/or industries to encourage ways of minimizing or eliminating the generation of all types of waste.

39. Monitoring bodies, including each country's ministry of health or other competent agencies, should have environmental monitoring systems so as to exercise more effective control over the parameters affecting the health of the population or the conservation of natural ecosystems. They should take preventive action and establish effective regulatory mechanisms.

40. The adoption by the member countries of uniform legislation on waste elimination was recommended.

41. Technology transfers involving "clean" production, treatment and elimination processes for waste management should be intensified.

42. It was becoming necessary to seek or adapt methodologies in order to help to generate the information needed and contribute to sound waste management in small- and medium-scale enterprises.

43. The success of private management in some countries and of public management in others made it clear that both alternatives for environmentally sound waste management, or a combination of the two, should remain open. Accordingly, the participation of the two sectors should be adapted to the specific characteristics and the socio-economic and political context of each country.

44. It was noted that economic growth indexes did not necessarily represent development, much less sustainable development; that had become clear from the environmental problems generated by the current model of growth in Latin America.

45. With regard to the project, it was recommended that means of editing and publishing, in summary form, the presentations and talks given by the Seminar participants should be sought. It was also recommended, in connection with the project, that the bibliographical listing mentioned in the talks and presentations should be edited and published.

46. The participants in the ECLAC/GTZ project should compile and publish existing information on: financial, economic and legal incentives; favourable forms of financing and credit; and systems for application, monitoring and enforcement of the laws. All of that should be done in cooperation with the European Union, Germany, France, the United Kingdom, international banks and technical and financial assistance programmes, with a view to facilitating and promoting the application of technologies and monitoring systems that could help to prevent, reduce and manage waste in an environmentally sound way.

47. It was recommended that there should be more intensive cooperation with and utilization of existing projects and institutions in Latin America and the Caribbean, such as the Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS) network, bilateral donor projects, the Urban Management Programme, the Inter-American Development Bank, the World Bank and UNDP.

## Annex 1

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## ANNOTATED AGENDA

## DEVELOPMENT AND ENVIRONMENTAL SUSTAINABILITY

1. Nowadays, economic and social development cannot be conceived of without considering their environmental impact. The environment is affected in various ways by economic activities, urbanization processes, modalities of population growth, changes in income levels and patterns of consumption, the growth of poverty and economic, social and cultural marginalization, changes in State structures, political and administrative choices and other factors in the development and growth of countries.

2. Economic development should be conceived of within the framework of environmentally sustainable processes, in other words, those ensuring that the benefits which future generations receive from their environment are equal to or better than at present. Environmental considerations must increasingly take into account the processes of defining and implementing development policies. Environmental values must be protected and, if possible, enhanced, because they constitute a valuable asset for humanity and for each society in particular, an asset which, at the same time, is liable to degradation or loss of the quality of its components.

3. Latin America has substantial environmental assets and natural resources as compared with other regions and continents, since it has a higher degree of biodiversity than any other region in the world. Over and above the natural factors responsible for these assets, the region's late development has helped to protect them. However, at the same time, Latin America is experiencing a population growth that is transforming it into one of the most urbanized regions in the world; that, together with its style of economic growth and levels of income distribution and consumption, poses the risk that such environmental assets, the region's potential wealth, may be seriously threatened if integrated policies for their protection are not adopted. In addition, the population, which resides in cities with a fragile and inadequate infrastructure, faces a permanent risk to its health; it should therefore be noted that the poverty and scarcity of capital resources which affect the region are associated with significant and specific increases in environmental risk. Hence, development policies in Latin America and the Caribbean must go hand in hand with policies geared to meeting basic needs and achieving environmental goals.

## URBAN AND INDUSTRIAL WASTE IN THE REGION

4. Among environmental policies, one which focuses on the problem of waste plays a distinguished role. The region generates substantial quantities of waste which, at the same time, are growing in diversity and hazardousness. Such waste, both urban and industrial, is generally handled poorly, so that it has a multiple and significant adverse impact on the health of the population and environmental quality. The invisible costs of such impact are increasingly higher, so that the region is accumulating a debt to the environment and health that will continue to grow so long as policies are not developed and instruments created to minimize such impact through sound waste management.

5. The countries in the region are currently developing and modernizing their environmental legislation and institutions, among which are those dealing specifically with waste. There is definitely an uneven level of progress here; in other words, some countries are more advanced than others in this area, which means that it is possible and appropriate to transfer experience and knowledge from one to the other.
6. It is also of great interest to expand ways and means of cooperation between developed countries and countries in the region in the area of urban and industrial waste management. The developed countries have at their disposal complex and wide-ranging policies for such purposes, as well as sophisticated instruments, substantial expert and technological capacity and extensive experience in the environmentally sound management of all types of waste. The problems are, to a large extent, common ones; what is more, their diagnosis and solutions are known, so that the transfer of experience, knowledge and technologies becomes highly relevant.
7. However, the region has at its disposal a wealth of other resources —human, natural and capital—characteristic of the developed countries, so that in confronting problems, the necessary adjustments and adaptations must be made. There are differences in patterns of industrial development, levels of income and consumption, models of urbanization and distribution and use of space, as well as the wealth of other natural resources. Because of this, the quantities and qualities of waste generated are, to a certain extent, different from those of the developed countries. This situation makes it necessary to sift and adapt the unquestionably valuable experience of those more developed countries which are already well advanced in this area.
8. There are still significant weaknesses in the region of a legal and institutional nature, as well as in the areas of human and technical resources, economic and waste management instruments, community information and participation mechanisms, raising the awareness of the actors involved and scientific and technological policies geared to environmental protection. Very little has yet been done with regard to prevention and minimization. The established priorities have indicated the need for control and sound management of current waste flows. To the extent that legal and institutional frameworks are established and comprehensive legislation enacted in the region, and such legislation is applied and monitored adequately within that framework, generators will find more effective incentives for starting to minimize and prevent waste generation, incentives which could be strengthened later through appropriate instruments.
9. We note that in a large number of cases the modernization and changing of production patterns which enterprises require in order to achieve appropriate linkages with the global economy, a basic requirement for progress today, point in the same direction as policies for reducing industrial pollution. This is so because in most production processes what is involved is enhancing efficiency in the use of energy and raw materials. The current situation is providing the region with a unique opportunity to modernize and, simultaneously, achieve sustainable development.
10. Major progress has been made in the region; there are more appropriate institutions, better qualified personnel and more cumulative experience with regard to household waste, as compared with industrial waste, although this does not mean that the specific problem of sound management and elimination of household waste has been fully solved and that there is ample and appropriate service in the region.
11. With regard to industrial waste of all types, and with few exceptions, the situation is very unstable. In general, no one knows who is generating such waste, how much they are generating, what main types

of waste are being generated and what the handling and final disposal practices are. This situation is especially serious with regard to hazardous industrial waste. There is a need to propose and implement solutions for the environmentally sound management of such waste.

12. In view of the difficulties inherent in any process of introducing activities which will necessarily mean greater monitoring of productive activities, at a time when deregulation would appear to be the commonly recommended formula, it would not be advisable to waste much time on studies and surveys aimed at quantifying and describing industrial waste, since such inventories cannot yield accurate results in the short term. What is involved, rather, is proceeding to design solutions more appropriate to the locality or region concerned. Moreover, it is clear that there is a need for more active inclusion of the industrial sector, with the participation of the private sector, in the policy of environmentally sound management of this type of waste.

### A SOUND WASTE MANAGEMENT POLICY

13. The ECLAC/GTZ project has developed and disseminated in the region an integrated waste management policy which has the following components, as outlined below:

- a) **Regulatory legal framework:** laws, regulations, rules and standards. Monitoring, verification and control: how to enforce them.
- b) **Capacity-building:** human resources, administrative entities, formulation, implementation and monitoring of the policy. Supervision and control teams. Link to policies of promoting productive and financial development.
- c) **Economic, financial and tax instruments** for strengthening or motivating compliance by polluters with the regulatory framework. Credit system.
- d) **Management instruments:** environmental impact assessment, environmental auditing, georeferenced information systems, advice on environment and waste management issues, other management instruments with environmental effects.
- e) **Urban development and use of space:** relationship between city, industry and waste. River basin management, urban planning and urban management. Zoning: residential areas, industrial parks, mixed-use areas. Waste management sites, transfer stations, etc.
- f) **Preventing and minimizing waste generation** through clean technologies and other forms of minimization, such as reduction of inputs, replacement, recovery, reuse and recycling of materials and waste.
- g) **Awareness-raising and habit formation:** information, formal and informal education, mass outreach and education of principal waste generators.
- h) **Citizen participation:** participation systems, channels and instruments, consultation with experts and free access to information.

14. All of these elements are essential to an integrated policy of environmentally sound urban and industrial waste management. However, in general, only some of them are taken into account in the policies put into effect in the region. There is a need to develop and expand further the scope of such policies with a view to better and safer implementation and achievement of their specific objectives within a shorter time-frame.

## Annex 3

## PROGRAMME

Tuesday, 30 August

- 09.00-09.15      Registration
- 09.15-09.45      Opening:  
Mr. Gert Rosenthal, Executive Secretary of ECLAC  
Mr. Werner Reichenbaum, Ambassador of Germany  
Mr. Fernando Castillo, Superintendent of the Santiago Metropolitan Area  
Mr. Jaime Ravinet, Mayor of Santiago.
- 09.45-10.00      Nicolo Gligo, Coordinator of the Joint ECLAC/UNEP Development and Environment Unit. Presentation: "ECLAC and sustainable development".
- 10.00-11.00      Hernán Durán, Coordinator of the ECLAC/GTZ project. Analysis of phase II of the project.
- 11.00-11.30      Discussion
- 11.30-11.45      Coffee
- 11.45-12.30      Alberto Ferral and María Inés Pardiñas, Municipality of Córdoba; Marta Juliá, consultant. The case of Córdoba.
- 12.30-13.00      Discussion
- 13.00-14.30      Lunch
- 14.30-15.30      Professor Eckhard Rehbinder (GTZ). "Legal and institutional aspects of the policy of environmentally sound waste management in the Federal Republic of Germany."
- 15.30-16.00      Carmen Artigas, ECLAC. "Legal and institutional aspects of the policy of environmentally sound waste management from a regional perspective."
- 16.00-16.15      Discussion
- 16.15-16.30      Coffee
- 16.30-17.30      Aurea M. Queiroz Davanzo, Secretariat of Planning and the Environment; Zoraide Amarante de Itapura, Department of the Environment of the Municipality of Campinas; Aldérico Jose Marchi, Intermunicipal Consortium of the Piracicava and Capivari River Basins. Leda Teixeira de Camargo, consultant. The case of Campinas and the Consortium in the state of São Paulo.

17.30-18.00 Discussion

Wednesday, 31 August

- 09.00-09.45 Mr. Adrián Rodríguez, Ministry of National Planning and Economic Policy (MIDEPLAN); Mr. Wilberth Vásquez, Ministry of Health; Juan Pablo Monzón, consultant. The case of Costa Rica.
- 09.45-10.15 Discussion
- 10.15-11.00 Mr. Héctor Valencia, Municipal Sanitation Company of Ecuador (EMASEO), and Mr. Vladimir González, Municipality of Quito; Mrs. Valeria Merino, consultant. The case of Quito.
- 11.00-11.30 Coffee
- 11.45-12.30 Julio Monreal, Ministry of Health; Javier Vergara, Special Commission on Pollution Control in the Metropolitan Area of Santiago (CEDRM). The case of Chile and the Santiago Metropolitan Area.
- 12.30-13.00 Discussion
- 13.00-14.45 Lunch
- 14.45-15.30 Silvana Giaimo, director of the UNDP/Municipality of Cartagena project; Bernard Gilchrist, Mamonal Foundation; José Henríque Rizo Pombo, Development Corporation for the Dique Canal Area of Colombia (CARDIQUE). The case of Cartagena.
- 15.30-16.00 Discussion
- 16.00-16.15 Coffee
- 16.15-17.00 Gonzalo Cubillos, ECLAC consultant. "Application of the 'polluter pays' and precautionary principles and analysis of legal provisions in the countries in the region."
- 17.00-17.45 Discussion

Thursday, 1 September

- 09.00-11.00 Víctor Bolano, GTZ; Jairo Tardelli Filho, Environmental Sanitation Technologies Company (CETESB), Brazil; Jairo Puente, National Institute for Renewable Natural Resources and the Environment (INDERENA), Colombia. Round-table discussion: "Technical analysis of urban and industrial solid-waste treatment in the countries participating in the project and criteria for formulating technical rules for its control and monitoring. State of the art world-wide".
- 11.00-11.15 Coffee
- 11.15-13.15 Peter Jensen, Officer-in-charge of the ECLAC Division of Environment and Human Settlements; Silvana Giaimo, UNDP/Municipality of Cartagena project; Pablo Jordán, ECLAC. Strategic plan for Cartagena, Colombia, and urban development and environmental management in the region.
- 13.15-14.30 Lunch
- 14.30-15.00 Professor Eckard Rehbinder (GTZ). "Analysis of environmental auditing and other instruments of environmental management in the European Union."
- 15.00-15.30 Discussion
- 15.30-16.15 Juan Pablo Monzón, consultant for Costa Rica; Jorge Jurado, National Financial Corporation (CFN), Ecuador; Marianne Schaper, ECLAC; José Leal, ECLAC; José Miguel Arteaga, ECLAC. "Regulatory and economic instruments of environmental management."
- 16.15-16.30 Discussion
- 16.30-16.45 Coffee
- 16.45-17.15 Conclusions
- 17.15-17.30 Discussion
- 17.30-17.45 Closing. Mr. José Goñi, Director of the National Environment Commission of Chile (CONAMA).

Friday, 2 September

- 09.30-17.30 Workshop on the formulation of phase III of the project. Participation by the project counterparts, ECLAC and special guests.

Aide-mémoire**WORKSHOP ON THE FORMULATION OF PHASE III OF THE  
ECLAC/GTZ PROJECT**

(Friday, 2 September 1994)

**1. Participants**

Those participating in the meeting for ECLAC were:

- Peter Jensen, Officer-in-charge of the Division of Environment and Human Settlements;
- Raúl Atria, Chief Regional Adviser of the Extra-budgetary Resource Mobilization Unit, Programme Planning and Operations Division;
- Nicolo Gligo, Coordinator of the Joint ECLAC/UNEP Development and Environment Unit, Division of Environment and Human Settlements;
- Hernán Durán, Chief Expert of the ECLAC/GTZ project of the Joint ECLAC/UNEP Unit;
- José Miguel Arteaga, Chief Assistant of the ECLAC/GTZ project.

For GTZ:

- Klaus Kresse, Regional Sectoral Coordinator for Latin America and the Caribbean, GTZ;
- Eckard Rehbinder, GTZ consultant;
- Víctor Bolano, GTZ consultant.

For the counterparts:

Delegates from the six countries participating in the project: Argentina, Brazil, Chile, Colombia, Costa Rica and Ecuador.

**2. Occasion and aim of the meeting**

The workshop was held immediately following the final meeting of the Regional Seminar on Progress and Prospects for the Environmentally Sound Management of Urban and Industrial Waste, held at ECLAC headquarters from 30 August to 1 September 1994 as part of the activities for the ECLAC/GTZ project.

The workshop had as its aim to present to the project counterparts the profile document for phase III of the ECLAC/GTZ project, entitled "Policies for environmentally sound waste management", and to receive initial comments and observations.

### 3. Main statements by the participants

The workshop began with a detailed presentation of the above-mentioned document by Mr. Raúl Atria, who outlined the rationale for the document, as well as its main sections. Mr. Atria noted, inter alia, the following elements of the new proposal:

- The need for an integrated approach to waste issues, a perspective and conceptual framework which the project has developed in its earlier phases;
- The need to adopt a regional perspective in this new phase;
- The desirability of developing the project in accordance with the institutional complexity of the participating countries;
- The need to strengthen the links between the countries in order to expand horizontal cooperation between them;
- The need for fuller coverage of the issue within ECLAC.

Stress was laid on the regional dimension which the project must adopt in this phase, as well as the need for regulation in spheres of increasing deregulation and open economies; the advantage of working with data and regional and international information networks; and the need to incorporate into the working groups a focus on the private sector, including large- and medium-scale enterprises, as well as small-scale and micro-enterprises.

The following is a summary of the statements made by the country representatives.

Colombia. Mr. Bernard Gilchrist, representing the Mamonal Foundation of Cartagena, Colombia, pointed to the formation of a commission by the Association for the Development of Environmental Management (ADEGA) of Buenos Aires, the Chilean Chamber of Construction and the Mamonal Foundation, which is to be expanded through participation by other members of industrial associations in the region. He noted the desirability of devising real mechanisms for participation by the private sector in the project. He also suggested that a private-sector seminar on waste should be held with input from the ECLAC/GTZ project. Lastly, he requested that an ECLAC consultant should provide ongoing advisory services to industrial organizations.

Mrs. Silvana Giaimo, representing the Municipality of Cartagena, said that the document matched Colombia's expectations and recommendations. She requested that the National Council on Economic and Social Planning (CORPES) should be removed as the project counterpart in Cartagena and that training should be channelled through the Cartagena School of Government and support provided to other municipalities by that means. She asked that the Ministry of the Environment, the regional autonomous corporations, the Municipality and the Cartagena School of Government should be included as project counterparts.

Mr. Antonio Sanfeliú, also representing the Municipality of Cartagena, requested the project to disseminate the lists of waste management courses and instructors by country, as well as information on the tendering schemes for services involving waste. He suggested that the project should provide technology assessment criteria and a data bank on available waste management technologies. He also

suggested that such topics as the redesign of institutional processes and the legal bases of waste policies should be addressed.

Mr. Jairo Puente, representing INDERENA, Bogotá, said that what was involved was a good document for phase III. He suggested that small-scale and micro-enterprises should be afforded special treatment because of the social problems associated with them. The universities could support such efforts through research, studies, bibliographies and infrastructure. Moreover, non-governmental organizations had environmental project funds which should be utilized. He stressed the objectives of the London Guidelines for the Exchange of Information on Chemicals in International Trade in respect of the handling of hazardous products and suggested that the project should take note of them.

Mr. José Henrique Rizo, of Cartagenera de Ingenierías (CARINSA), Cartagena, said that the project should provide support for research on appropriate waste management technologies.

Mr. Nicolo Gligo, ECLAC, stressed the need to take into account conflicts between the various actors involved in the formulation and implementation of national or local waste management policies; it was necessary to seek greater separation among them and a precise definition of them and to conceptualize the various rationales for such actors in order to devise mechanisms for cooperation among them.

Argentina. Mrs. María Inés Pardiñas, representing the Municipality of Córdoba, made a number of observations, stressing the importance which should be attached in phase III to small-scale and micro-enterprises, with the relevant institutional support and training. In this area, coordination with the Friedrich Ebert Foundation should be sought. Moreover, she suggested that emphasis should be given to data generation in the form of records, inventories, surveys and regional databases on industrial waste. She noted the closer links with other ECLAC divisions proposed in the phase III document. It was appropriate that all social actors should be included. If the "polluter pays" principle was to be applied, there must first be very tight control, as well as norms and records of high quality; to that end, it was necessary to strengthen institutional management.

Costa Rica. Mr. Wilberth Vásquez of the Ministry of Health requested that the Ministry of Health and MIDEPLAN should continue as project counterparts. He explained why it was inappropriate to involve the industrial sector in the ECLAC project. That polluting sector should be required to provide solutions, because it had the means of recruiting experts. Efforts should be made, through negotiating processes and appropriate awareness-raising, to sign agreements whereby industrial enterprises would undertake to comply with the existing rules. The sector could not be both judge and party. He described a successful experience with the coffee-growing industry in his country which it could be useful to transmit.

Mr. Jorge Beckel, ECLAC consultant, stressed the need to provide teaching on how to access the databases and information centres on environmentally sound technologies and processes.

Ecuador. Mr. Vladimir González of the Municipality of Quito stressed the need for progress in industrial surveys so that there could be a monitoring plan for the industrial sector. In his view, nothing had been done in his country in the small-scale and micro-enterprise sector; therefore, attention should be paid to it. The sector had a low technological profile and limited financial and technological capacity. Privatization had generated a substantial handicrafts and small-scale and micro-enterprise sector which was not subject to regulation and thus difficult to monitor. He suggested that the project working group

should incorporate a focus on small-scale and micro-enterprises. It would also be useful to include non-governmental organizations in joint work with the municipalities. Such organizations maintained useful ties with industrialists. He stressed the contribution made by other ECLAC divisions, especially the Division of Production, Productivity and Management. He requested that residual hazardous substances and their transport containers and packaging should be treated as industrial solid waste. In his view, participation by the industrial sector should not be separate from the total activities undertaken with the project counterparts.

Mr. Hernán Durán, ECLAC, addressed the need for new and better ties with the universities. He described the advantages and existence of a proposal for a postgraduate degree in environmental management in the region, on the model of what was done in the European Union.

Brazil. Mrs. Aurea Queiroz, representing the Municipal Prefecture of Campinas, said that her delegation was satisfied with the phase III profile; she requested continuing support for the municipalities and the upgrading of environmental management instruments. She noted the municipal weaknesses in that area. The municipalities could be a proving ground for environmental management programmes. In Campinas, an integrated environmental management system was currently being implemented which included an integrated system of solid industrial waste management.

Mrs. Maria Geraldina Salgado, also of the Prefecture, suggested that what needed to be done with regard to small-scale and micro-enterprises was first to draw up an inventory of their waste and then to monitor it.

Mr. Jairo Tardelli, of CETESB, São Paulo, stressed the importance which should be attached to horizontal cooperation in phase III and the contribution which his institution could make to that effort.

Mr. Aldérico Marchi, of the Intermunicipal Consortium of the Piracicaba and Capivari River Basins, São Paulo, stressed the appropriateness of the regional approach to waste management proposed in the document. That approach was the one adopted by the consortium which he represented.

Mr. Klaus Kresse, speaking on behalf of the GTZ Office of Regional Sectoral Coordination for Latin America and the Caribbean, expressed appreciation to ECLAC for the document which, in his view, was of high quality. He requested that the recommendations made by the ECLAC/GTZ evaluation mission should be incorporated. He further stated that there was no justification for excluding solid industrial waste and that gaseous and liquid waste should be included. He stressed the need for national and regional indicators of achievements and successes at the country and regional levels. The transfer of European experience should be ensured. Mention should be made of the CEPIS Pan American Network, which was a specific network of great relevance to the project themes. There should be a search for some type of monitoring and evaluation system in order to monitor the achievements and successes of the project. The statement made in the document concerning the difficulty of coordination with the Regional Coordinating Committee for Drinking Water and Sanitation Agencies in Central America, Panama and the Dominican Republic (CAPRE)/GTZ project was neither appropriate nor tactful; in his view, it was no more difficult than coordination with other projects. On a different topic, he said that the phase III document was very ambitious, that there were too many agencies to coordinate and that further cooperation must be sought from other donors so as not to limit the scope of the project.

Professor Eckard Rehbinder, GTZ consultant, suggested that the document should identify the real obstacles and ways of overcoming them. With regard to small-scale and micro-enterprises, he said that

in Germany there were chambers of industry and commerce, which established information centres on pollution control techniques. It should be verified whether that model could be valid for Latin America. What was needed was a search for appropriate technologies and an identification of the highest-priority substances, the emission sites and the technical options for reducing pollution. He stressed the importance of focusing administrative strategies and of periods of adjustment.

Mr. Víctor Bolano, GTZ consultant, said that monitoring and control of large- and medium-scale enterprises should commence and that training should be provided to small-scale and micro-enterprises; to that end, many diverse aspects should be taken into account. The competence of ECLAC and of its various divisions would be very important in phase III. Resources were limited; accordingly, there was a need to give priority to and limit objectives. Priority should not be given to technical problems. What was also needed in the phase under consideration was more active collaboration with the counterparts, in other words, a more solid commitment from them.

Chile. Mr. Héctor Koyck, of the Technical Cooperation Service (SERCOTEC), said that his agency's experience in providing support to small-scale and micro-enterprises had been positive. They had been given a subsidy to hire private consultants in order to comply with the laws. He stressed the need for greater horizontal cooperation and use of existing networks. Those included the Latin American Seminar on medium- and small-scale enterprises. The collaborative capacity of the small-scale and micro-enterprise sector should be strengthened through work with its various branches. The priorities for small-scale and micro-enterprises did not involve monitoring, since there were no data, but rather identification and quantification of waste generation.

Mrs. Cecilia Parra, of CONAMA, Chile, stressed the need for new economic instruments to motivate the use of less polluting technologies, including tax abatements, credit mechanisms and others. She also stressed the need for surveys, incentive systems and green seals, and for establishing homogeneous requirements and criteria for the various countries.

Mr. Gonzalo Aguilar, representing the Ministry of Health of Chile (Department of the Programme on the Environment), emphasized the need for greater project commitment to the Basel Convention and for training in its subject areas. He requested that urban household solid waste should be included, since much industrial waste was sent to landfills. He suggested that the CEPIS network should be used, as it featured transmittal mechanisms for appropriate technologies and a quantification of industrial waste.

Lastly, Mr. Hernán Durán, ECLAC, expressed appreciation to the participants for attending the meeting, and stressed its usefulness for the planning of phase III of the project. He said that the above comments would be incorporated into the document as soon as possible. In conclusion, he said that an aide-mémoire summarizing the topics dealt with in the workshop would shortly be sent to the participants.