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REPORT ON THE PARTICIPATORY PLANNING BY OBJECTIVES
SEMINAR ON "POLICIES FOR THE DETECTION AND CONTROL
OF URBAN AND INDUSTRIAL CONTAMINATION"

(Quito, Ecuador, 25-27 March 1991)

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A. BACKGROUND

In Quito, Ecuador, between 25-27 March 1991, the ZOPP¹ Seminar on "Policies for the Detection and Control of Urban and Industrial Contamination" was convened by ECLAC and the Municipality of Quito with a view to promoting the activities undertaken by the latter in the area of environmental management. The Seminar is part of the Project "Guidelines and Consultancy Services on Controlled Environmentally Sound Waste Management", conducted by ECLAC with the support of the German Agency for Technical Cooperation (Federal Republic of Germany) (GTZ)².

The objective of the Seminar was to formulate a programme for the purpose of helping to improve policy for the detection and control of urban and industrial contamination in Quito.

¹ ZOPP: acronym for the German expression "Zielorientierte Projektplanung" which means participatory planning by objectives.

² GTZ: Deutsche Gesellschaft für Technische Zusammenarbeit.

B. METHODOLOGICAL ELEMENTS

In order to understand the objectives, procedures and the results of the Seminar, it is necessary to understand, first, the principal characteristics of the ZOPP methodology.

In order to examine, plan and realize the German contribution to development projects of technical cooperation, the GTZ uses the ZOPP method of planning. The results of the analysis and the planning process, taken together, form a planning matrix which contains the basic structure of the project.

The ZOPP method is used in the analysis and planning stages. The method is effective in so far as experience has shown that the elaboration and execution of projects is easier and more successful when the participants have the opportunity to reach agreements on objectives which have been expressed in the clearest possible terms.

The problems analysed affect both the general population and social groups and institutions. Therefore, before the problems are addressed, a diagnosis is made which includes all affected groups with their respective interests. The analysis of the participating bodies is found in annex 2.

Furthermore, objectives can only be clearly formulated when the causes and effects of the problems to be solved have been analysed, for which purpose a tree of problems is created, as shown below.

This exercise made it possible to identify the principal problem to be:

- A. The high and growing levels of environmental deterioration in Quito.

The direct causes are:

- 1) Inadequate disposal of solid toxic waste.
- 2) Indiscriminate use of contaminating chemicals on soils.
- 3) Inadequate disposal of domestic and industrial waste.
- 4) Total lack of domestic sewage treatment.
- 5) Discharge of untreated liquid industrial waste.
- 6) Insufficient control systems (filters and others) for fixed sources of atmospheric contamination.
- 7) High levels of atmospheric contamination from transportation.
- 8) High levels of acoustic contamination.
- 9) Lack of environmental planning for land use.
- 10) Destruction of protecting forests and green areas for housing.

In view of the objectives of this Seminar, it is important to note that the participants found that all the causes of the principal problem were centred around the following points:

- 1) Environmental legislation not enforced.
- 2) Lack of adequate planning.
- 3) Deficient formulation and execution of control policies.
- 4) Inadequate supervisory systems.
- 5) Lack of environmental awareness campaigns.
- 6) Deficient incorporation of educational programmes in schools and universities.
- 7) High population growth rate.

Following this, an analysis of objectives was made, as shown below.

This objectives analysis, which includes possible solutions, highlights areas of action in which the Illustrious Municipality of Quito is already at work and reveals other areas for which strategies designed to achieve the proposed objectives must be determined and/or implemented. Those areas are:

- 1) Solid waste.
- 2) Contamination of waters.
- 3) Atmospheric contamination.
- 4) Land use.
- 5) Legislation and planning.
- 6) Inspection and control.
- 7) Training.
- 8) Education.

The Seminar working group concluded that considerable technical support for the first four areas is already being provided by diverse agencies (the United Nations Development Programme, United States Agency for International Development, The Conservation Foundation, the Joint ECLAC/UNEP Development Unit, the World Health Organization WHO/PAHO, CEPIS and the GTZ. For that reason, it was decided to concentrate efforts on the other four areas.

Thus, those four areas were chosen as project strategies and, as such, would be the basis for the elaboration of the planning matrix.

The planning matrix organizes the different stages of the project by relating activities to results and objectives. Achieving the objective or objectives requires obtaining results which, in turn, depend on the realization of certain activities for the purpose of obtaining those results.

Moreover, within the planning matrix, indicators for objectives and results are identified so as to be able to verify: their evolution or realization; the institution or sources of verification of the achievement of objectives; and the important assumptions for the realization of the above. These assumptions make the dependence of the project on the existing situation clear and make it possible to evaluate and reduce project execution risks.

By way of example, the planning matrix produced in the Seminar is presented below:

PROJECT PLANNING MATRIX

SUMMARY OF OBJECTIVES/ACTIVITIES	OBJECTIVELY VERIFIABLE INDICATORS	VERIFICATION SOURCES	IMPORTANT ASSUMPTIONS TO SUSTAIN OBJECTIVES IN THE LONG TERM
GENERAL OBJECTIVE	INDICATORS OF THE ACHIEVEMENT OF THE GENERAL OBJECTIVE		
Reduce levels of environmental contamination in Quito	<ol style="list-style-type: none"> 1. 90% containment of solid waste in the next five years 2. Between 25% and 30% reduction of atmospheric contamination between 1992 and 1997 3. Between 35% and 55% reduction of biodegradable contamination in waters in the next 10 years 4. Between 45% and 60% reduction of non-biodegradable contamination in waters in the next 10 years 5. 80% reduction of untreated liquid industrial discharges in the next five years 	<ol style="list-style-type: none"> 1. Statistics of the Solid Waste Section of the Sanitation Department 2. Data obtained by Sanitation Department air quality monitoring 3 and 4. Sampling reports from Environmental Quality Control Department 5. Reports of Department industrial environmental audits 	<p>Collaboration of all involved sectors is achieved</p> <p>Political changes do not have negative impact on project continuity</p> <p>Legislation of municipal ordinances evolves continuously</p>
PROJECT OBJECTIVE	INDICATORS OF THE ACHIEVEMENT OF THE PROJECT OBJECTIVE		TO ACHIEVE THE GENERAL OBJECTIVE
Formulate and implement policy for the detection and control of urban and industrial contamination in Quito	<ol style="list-style-type: none"> Full implementation of inspection and control policy by June 1992 90% financing for the new ordinance, control and training administrative structure obtained by June 1992 	<p>Package of new ordinances, General Secretariat, Municipality of Quito</p> <p>Reports of Municipal Sanitation Department</p> <p>Listing of industrial waste discharge and permits</p>	<p>Environmental projects currently implemented or under study by the Illustrious Municipality of Quito are continued and improved</p> <p>Environmental projects currently implemented or under study by the Illustrious Municipality of Quito are financed by July 1991</p>

RESULTS

INDICATORS OF RESULTS

TO ACHIEVE PROJECT OBJECTIVE

<p>1. Environmental regulations formulated and enforced in Quito</p>	<p>1. Legal environmental framework of the Illustrious Municipality of Quito, approved by the Municipal Council, established by December 1991</p>	<p>1. Evaluation of the Municipal Sanitation Department</p>	<p>1. All necessary financing for the project is obtained</p>
<p>2. Duly financed environmental Plan formulated and implemented</p>	<p>2. In 1993, Sanitation Department shows that contamination indexes have diminished X%, compared with 1991</p>	<p>2. Package of new ordinances, General Secretariat, Municipality of Quito</p>	<p>2. The Municipal Council approves all municipal ordinances</p>
<p>3. Legal and administrative detection and control measures defined and operative</p>	<p>3. Ministry of Public Health has delegated the Sanitation Department to inspect and control the environment in Quito before December 1991</p>	<p>3. Analysis results from Municipal Sanitation Department</p>	<p>3. The legislative project does not hinder project progress</p>
<p>4. Training of municipal technicians in environmental matters improved</p>	<p>4. By mid-1992, 70% of environmental control technicians have been trained and are applying what they learned</p>	<p>4. Document of Inter-Institutional Agreement (IEOS-INNERHI-DMH)</p>	<p>4. The diverse public and private institutional points of view do not generate conflicts which block project realization</p>
<p>5. General public made aware of the need to protect the environment of Quito and surroundings</p>	<p>5. By 1995, 70% of the public is applying environmental contamination control plans</p>	<p>5. Department head reports on personnel efficiency and application of training</p>	
		<p>6. Results of surveys applied by Ministry of Education and Culture, educational institutions</p>	
		<p>7. Sampling reports of the Air Quality Control Department-DMH</p>	
		<p>8. Results of surveys applied by General Sanitation Office</p>	

ACTIVITIES

TO OBTAIN RESULTS

- | | |
|---|--|
| 1a. Prepare environmental quality rules and regulations studies | 1. See Project Objective assumptions |
| 1b. Define practical mechanisms for the enforcement and implementation of ordinances | 1 and 2. See assumption 1 in Project Objective |
| 2a. Create and structure environmental information systems | 4. Occupational profiles have been identified |
| 2b. Diagnose current environmental quality | 5. High level of technical capacity is maintained among professionals in charge of the project |
| 2c. Define action strategies | 6. The collaboration of all involved sectors has been achieved |
| 2d. Define environmental plan (duly financed) | |
| 2e. Evaluate and monitor execution of plan projects | |
| 3a. Achieve inter-institutional cooperation for ordinance enforcement | |
| 3b. Create administrative control structure, with technical support | |
| 3c. Develop and implement follow-up and evaluation systems for environmental inspection and control | |
| 4a. Evaluate training needs | |
| 4b. Assign and/or obtain sufficient funds for training | |
| 4c. Select suitable personnel for training | |
| 4d. Implement national and international training programmes | |
| 4e. Provide incentives for trained personnel | |
| 4f. Evaluate training process | |

TO OBTAIN RESULTS

ACTIVITIES

5a. Create and implement environmental education programmes

5b. Encourage general participation (neighbourhood organizations, etc.) in environmental education programmes in municipal schools

5. Conduct environmental education programmes in municipal schools.

C. CONCLUSIONS

Finally, it was decided that the formulation and implementation of urban and industrial contamination inspection and control policies is urgently necessary in order to reduce environmental contamination in Quito.

The Illustrious Municipality of Quito, through its Sanitation Department, is responsible for supervising and eventually influencing the legislative, financial and inter-institutional factors which will make long-term implementation of the general objective in the Project Planning Matrix possible.

Annex 1

LIST OF PARTICIPANTS

Germán BONILLA
Jefe de Estudios
Empresa Municipal de Agua Potable, Quito
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Jorge BOROSHILOV
Ingeniero en Residuos Sólidos
DMH*-Departamento de Residuos Sólidos
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Raúl CASTILLO
Empresa de Alcantarillado
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Klever CHAVEZ
Responsable Plan Piloto de Control Ambiental
del sector industrial El Inca, DMH-DCCA**
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Francisco DE TORRE
Subdirector
DMH-Subdirección de SAM
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

* DMH = Dirección Municipal de Higiene.

** DCCA = Departamento de Control de la Calidad Ambiental.

Elena ESPINOSA

Estructura espacial del distrito metropolitano
Dirección de Planificación
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Carlos FALCONI

Proyectos Ordenanzas Industriales, DMH-DCCA
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Luis GOMEZ

Programa de Calidad y Usos de los Ríos en Quito
IMQ*-Departamento de Control de la Calidad Ambiental
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Patricio GOMEZ

Jefe del Departamento de Residuos Sólidos, IMQ-DMH
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Vladimir GONZALEZ

Programa de Control Ambiental, IMQ-DCCA
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Michael HOFFMAN

Asesor Industrial, DMH-DCCA
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Fernando LEON

DMH-DCCA
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

* IMQ = Ilustre Municipalidad de Quito.

Fernando MAYORGA
Empresa de Alcantarillado
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Fabián MONCAYO
Ingeniero de Estudios y Diseños
Empresa de Alcantarillado
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Edith PUGA
Proyecto Vigilancia Atmosférica, IMQ-DCCA
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Fabián SANDOVAL
Consultor CEPAL
Alpallana y Av. 6 de Diciembre
Casilla 5007 y 5008, Quito
Ecuador

Santiago SARASTI
Ingeniero Ambiental, Area Hidráulica
DMH-DCCA
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Betha VALDOSPINOS
IMQ-Relaciones Internacionales
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

René VALLEJO
Proyecto
Sistema Urbano de Información
Dirección de Planificación
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Olga ZUBKOVA
DMH-DCCA
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

SECRETARIAT

Jorge JURADO
Jefe Departamental
IMQ-Departamento de Control de la Calidad Ambiental
Casilla 486, Suc. de Correos 12
Av. 12 de Octubre, Quito
Ecuador

Hernán DURAN DE LA FUENTE
Experto Principal Proyecto, CEPAL
Edificio Naciones Unidas
Av. Dag Hammarskjold s/n
Casilla 179-D, Santiago
Chile

Annex 2

PARTICIPATION ANALYSIS

NATIONAL INSTITUTIONS	FUNCTION	RESOURCES	STRENGTHS	DISADVANTAGES
ILLUSTRIOUS MUNICIPALITY OF QUITO Department of Environmental Quality Control	Investigate, organize, process and stimulate action with regard to the factors which affect the quality of the environment of Quito and its inhabitants	Personnel, assigned to four specific current projects	Knowledge of the problem. Receives international technical advice	Insufficient financial resources. Lack of practical training in appropriate technologies
Universities	Teaching and investigation	Specialized personnel (ESPEC)	Knowledge of the problem	Lack of political support. Lack of economic and material resources
Secondary and primary schools	Education	Personnel	Capacity for communication	Few financial resources
ECUADORIAN INSTITUTE OF SANITARY WORKS (IEOS)	Responsible for sanitary and environmental infrastructures and policies	State funds. Internal funds. Fondo Nacional de Saneamiento Ambiental (FONASA)	RURAL SERVICES: Potable water and sewage URBAN SERVICES: Hospitals NATIONAL LAWS AND REGULATIONS: Control of resources. Delegation of control functions	Bureaucratic inefficiency. Lack of operational capacity. Inefficient use of resources. Insufficient resources. Lack of defined environmental policies
ECUADORIAN INSTITUTE FOR WATER RESOURCES	Water resource planning and administration. Irrigation planning and infrastructure construction	Technical resources (personnel). Economic resources (ESTATAL FONARID)	Construction of irrigation infrastructure (priority)	Planning, administrative and environmental protection policies not observed. Insufficient personnel
MINISTRY OF ENERGY AND MINES	Energy sector	State (national budget)	Environmental laws Influence in control of energy sector	Lack of legal support. Wasted resources. Attempts to lead in technical environmental matters
ECUADORIAN DEVELOPMENT BANK	Financing for investment programmes	State, international	Economic resources. Technical aid for strengthening institutions	Excessive paperwork
NATIONAL PRE-INVESTMENT FUND	Pre-investment	State, international	Registry of consultants and works	Excessive paperwork and extemporaneous access to resources

NATIONAL INSTITUTIONS	FUNCTION	RESOURCES	STRENGTHS	DISADVANTAGES
MINISTRY OF AGRICULTURE AND LIVESTOCK	Farm sector, forest land, national parks, livestock management	State	Legislation	Scarce funds and personnel
MINISTRY OF GOVERNMENT AND POLICY	Law enforcement	Personnel and material resources	Legal authority	Incorrect law enforcement. Inadequate organizational structure
MINISTRY OF EDUCATION AND CULTURE	Planning of educational curricula	State (economic)	Communication of environmental educational programmes	Lack of coordination with teachers
ECUADORIAN INSTITUTE TECHNICAL NORMS	Enact quality control regulations	State budget	Norms for diverse technical aspects	Has not created environmental regulations
NATIONAL COUNCIL	Legislate	None	Debate and promulgation of environmental laws	Lack of technical criteria. Highly politicized (manipulation)
NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY	Formulate, plan, implement and communicate results of scientific and technological research projects	Financial. Technical resources for project design. Information	Availability of funds	Lack of contact with productive sectors. Lack of institutional agility. Has not defined scientific and technological research policy

INTERNATIONAL COOPERATION	FUNCTION	RESOURCES	STRENGTHS	DISADVANTAGES
PAN AMERICAN HEALTH ORGANIZATION ECLAC UNITED NATIONS ENVIRONMENT PROGRAMME	Technical assistance	Personnel	International experience	Slow response Few resources
GERMAN AGENCY FOR TECHNICAL COOPERATION	Credit Technical assistance	Financial resources and personnel	German experience	Slow processing of projects
OTHER BILATERAL COOPERATION AGENCIES	Credit Technical assistance	Financial resources and personnel	Knowledge from their own experiences	Many with few resources
WORLD BANK	Credit	Financial resources	Project design	Slow processing of projects
INTERAMERICAN DEVELOPMENT BANK	Credit	Financial resources	Project design. International experience	Slow processing of projects
EUROPEAN ECONOMIC COMMUNITY	Credit Technical assistance	Financial resources and personnel	Experience in the countries of the European Economic Community	
ANDEAN DEVELOPMENT CORPORATION	Credit, technical assistance	Financial resources and personnel	Availability of technical and economic resources	Slow processing of requests for technical aid and loans

NON-GOVERNMENTAL ORGANIZATIONS	FUNCTION	RESOURCES	STRENGTHS	DISADVANTAGES
FUNDACION NATURA (ECUADOR)	Environmental education. Oversight and follow-up on State programmes	Infrastructure. Data base	Access to local funding. International relations	Incomplete understanding of environmental problems
COMMUNITY ORGANIZATIONS	Immediate and/or sector level	Qualified	Group organization	Lack of economic and financial resources. Vulnerable to political manipulation
CHAMBER OF INDUSTRY	Promote the project within industry	Infrastructure	Knowledge of industry. Political influence	Basic economic interests. Resistance to collaboration. Lack of "know-how"
COMMUNICATIONS MEDIA	Communication of environmental programmes	Infrastructure	Wide coverage	High communications costs. Information distortion. Regionalist focus