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# Consultative Meeting on Municipal Wastewater

REGION: **LATIN AMERICA**

**Mexico-City, Mexico**

**10 - 12 September 2001**



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This report is identical to the Final Report of the Latin American Workshop on Municipal Wastewater, without the Annexes II-V.

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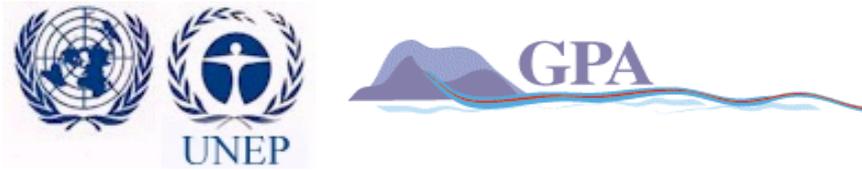
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**Latin American Workshop on Municipal  
Wastewater Management**

**Mexico City, Mexico**  
**10th - 12th of September, 2001**

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# **Latin American Workshop on Municipal Wastewater Final Report**

**Mexico City, 10th - 12th of September, 2001**

## **Latin American Workshop on Municipal Wastewater Management UNEP/GPA**

### **Background**

The Latin American Workshop on Municipal Wastewater Management UNEP/GPA is the third in a global series of eight regional meetings organised to enhance the UNEP/GPA recommendations on the issue of municipal wastewater, aimed at the development of regional annexes on such recommendations, where appropriate.

The workshop addressed the issue of municipal wastewater, thus following-up on the activities devised for the implementation of the GPA during the "Expert Group Meeting to Prepare the First Intergovernmental Review Meeting on the Implementation of the GPA" (The Hague, April 2000) and the Twenty-first Meeting of UNEP's Governing Council. Furthermore, this workshop is a complement to the Meeting of the Regional Working Group on Municipal Wastewater UNEP/GPA and CAR/RCU held in Ocho Rios, Jamaica (February, 2001). According to the agreements reached during the "Expert Group Meeting to Prepare the First Intergovernmental Review Meeting on the Implementation of the GPA," The Hague, the Latin American workshop welcomed the participation of government representatives, non-governmental organizations, scholars, private sector and international organizations.

The main objectives of the workshop were:

- To discuss the working papers of the GPA: "Recommendations for Decision-making on Municipal Wastewater", "Strategic Action Plan" and "Process and Approach to Develop Recommendations for Decision-making on Municipal Wastewater," and ensure their relevance for Latin America.
- To exchange experiences and expertise with regard to new financial, technical and institutional arrangements in relation to the management of wastewater, focusing on potential partnership schemes.
- To support the countries in the region in preparing their participation at the Intergovernmental Review Meeting on the Implementation of the GPA, to be held in Montreal, Canada in November 2001.

### **1. Opening of the Latin American Workshop on Municipal Wastewater Management**

Opening session of the Latin American Workshop on Municipal Wastewater Management, with the participation of:

**Mr. Hugo Guzmán**, General Director of Hemispheric, Regional and Bilateral Issues of the UCAI, on behalf of Mr. Víctor Lichtinger, Minister of the Environment and Natural Resources (SEMARNAT).

**Dr. Álvaro A. Aldama**, General Director of the Mexican Institute for Water Technologies.

**Mrs. Francisca E. Méndez Escobar**, Director of Environmental Organisations and Institutions, on behalf of Mrs. Lourdes Aranda Bezaury, General Director of the New International Agenda, Ministry of Foreign Affairs (SRE).

**Dr. Luis Alberto Franco Ramírez**, Chair of the Environmental Commission of the Latin American Parliament (PARLATINO).

**Mr. Ricardo Sánchez Sosa**, Director of UNEP's Regional Office for Latin America and the Caribbean.

**Mr. Cees van de Guchte**, GPA Senior Programme Officer, on behalf of Mrs. Veerle Vandeweerd, Executive Director of the GPA Coordination Office in The Hague.

Opening remarks were made by **Mr. Ricardo Sánchez** from UNEP, by **Dr. Alvaro Aldama** from IMTA, by **Mrs. Francisca Méndez** from SRE, by **Mr. Cees van de Guchte** and by **Mr. Hugo Guzmán** from SEMARNAT, who declared the session officially opened. All the officers highlighted the importance of wastewater treatment as a challenge for Latin American countries and stressed the key relevance of holding this kind of meeting at a regional level.

## **2. Adoption of the Agenda and Election of Officers to the Head Table**

The workshop officially started with the adoption of the agenda and the election of officers to the head table, as follows:

Chair, **Mr. Hugo Guzmán Sandoval**,  
Ministry of the Environment and Natural Resources, **Mexico**.  
Vice-Chair, **Mrs. Paulina Abarca Cortés**,  
National Commission for the Environment, **Chile**.  
Vice-Chair, **Mr. Pablo Edgardo Mesa**,  
Ministry of Social Development and the Environment, **Argentina**.  
Rapporteur, **Mr. Pedro Dongo Ortega**,  
National Council for the Environment, **Peru**.

## **3. Description of the rules of procedure, objectives and scope of the Meeting**

**Oscar M. Ramírez Flores**, UNEP/ROLAC described the rules of procedure, objectives and scope of the three-day meeting, and each of its five sections.

## **4. Introduction to the GPA**

The first part of the session was dedicated to an overview on the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities UNEP/GPA. Mr. **Cees van de Guchte**, on behalf of the GPA's Co-ordination Office, made a presentation on the GPA and provided an up-date of the Programme's activities, including a summary of the recent meetings held and initiatives put forward for the management of municipal wastewater, and highlighted the lessons so far learnt.

## **5. Presentation of Case Studies and Initiatives**

### **a) Diagnoses of wastewater management in Latin America.**

The second part took off with the presentation of some regional diagnoses of wastewater management in Latin America, *inter alia* the presentations made by Mr. **Timothy Kasten** (Regional Co-ordinating Unit of the Caribbean Environment Programme) on the Wider Caribbean Region, and the presentation made by Mrs. **Nora Cabrera** (General Sanitation Management – Chile, and consultant to the Co-ordination Office of the GPA) on the socio-economic aspects of wastewater in the South-eastern Pacific in Latin America.

**b) National and local case studies.**

The third part of the session was dedicated to the presentation of national and local case studies, amongst which presentations were made on new institutional arrangements, partnership schemes with the private sector, and at different government levels. In the same respect, presentations were made on new or successful technologies for small communities.

Mrs. **María Teresa Leal**, from the Mexican Institute for Water Technology, made a presentation on the effect of wastewater in coastal areas. Mrs. **Sandra León**, from the Laboratory for Marine Chemistry of the National University of Costa Rica, presented a report on the river basins and flow of materials in the Gulf of Nicoya. Mr. **Luiz Carlos Rodrigues**, from the Secretariat of Sanitation and Water of Rio de Janeiro, Brazil, discussed the recovery of the Guanabara Bay. Lastly, Mr. **Alfonso Aguirre**, from Agromarinos, S.A. de C.V., a private company, discussed the holistic management of water and the criteria for a strong and sustainable development in the coastal areas, stressing the importance of hydro-cultivation as a production alternative, if the quality of water in the coastal areas is high enough.

Afterwards, two presentations were made on the issue of innovative, holistic and alternative technologies; the first by Dr. **Mintcho Iliev Mintchev**, from Ingeniería de Potabilización y Tratamiento de Aguas Residuales S. A. de C. V., a private company, and the second by Dr. **Aurelio Ahumada**, on behalf of ECORED Foundation. Both of them elaborated on the subject of technology for sustainable development.

During the second day of the workshop, further presentations were made on local and national case studies. Mrs. **Magali Espinosa**, from the General Sanitation Management in Chile, talked about the system implemented to regulate and privatise the treatment of wastewater in her country. Mr. **José Luis Hernández**, from the National Commission for Water discussed the state of the art in the treatment of wastewater in Mexico, highlighting the existing capacity in the country. Mr. **Hans Herrman**, from the North American Commission for Environmental Co-operation, made a presentation on the initiative of Canada, the United States and Mexico to implement the GPA in two pilot areas, particularly in the Marine Basin of the Californias. Finally, Mr. **Alberto García**, environmental manager of Huatulco, Oaxaca, Mexico, addressed the importance of the quality of water in touristic municipalities, such as Huatulco; he also mentioned the measures taken by the municipal government to tackle the problems in that area.

**c) Financing.**

The discussions on this issue were rather brief, but also quite controversial. Unfortunately, many of the financial agencies and institutions that were invited to the workshop could not participate for different reasons. However, those who attended addressed the perspective of the financial institutions, as well as the programmes they have drafted and their implementing mechanisms. Mr. **Raúl López**, from the Central American Commission for the Environment and Development, presented an analysis of the economic instruments to control water pollution, particularly in Costa Rica and Guatemala. Mr. **José Carlos Ramoneda**, from Finfra-Banobras, a financial institution that belongs to the Mexican government, presented the Programme for the Modernisation of Water Operating Organisations. Mr. **Rolando Quiñónez**, from USAID-Guatemala, discussed an innovative and participation-encouraging project focused on the private sector and aimed at the improvement of environmental urban

services. Lastly, Mrs. **María Elena Zúñiga**, from ICLEI, talked about ICLEI's water campaign as a tool in the management model devised for local governments.

## **6. Working Groups Session (WG)**

Three working groups were set and chaired by the workshop's appointed chair and vice-chairs. Each of the working groups discussed and analysed the following working papers: "Recommendations for Decision-making on Municipal Wastewater", "Strategic Action Plan" and "Process and Approach to Develop Recommendations for Decision-making on Municipal Wastewater." After drafting the duly amendments, the groups went back to plenary discussion in order to formulate specific recommendations and immediate actions.

The secretariat and group co-ordinators gathered the results of the working groups session and submitted them to the meeting for corrections/amendments and approval (see Annexes I, II, III and IV).

## **7. Presentation of the objectives and scope of the Inter-Governmental Review Meeting of the GPA to be held in Montreal. Adoption of the Document on Latin America**

Mr. **Cees van de Guchte** pointed out that the workshop is part of the preparatory process to formulate policies and international guidance, where such policies and guidance are regionally analysed on a group-by-group basis. A series of regional meetings, documents and consultation rounds are simultaneously taking place or being drafted and will be made available to the governments so that they prepare themselves for the Montreal meeting. This, in turn, is part of a global international interaction process and will give input to the World Summit on Sustainable Development to be held in Johannesburg (2002) and the World Water Forum to be held in Kyoto (2003).

Mr. van de Guchte generally discussed the characteristics of pilot projects, which should reflect the philosophy and recommendations of the GPA. They may, for example, consider the participation of the private sector, or small-scale voluntary initiatives, or effective low-cost technologies, or the integration of coastal areas and basins. They may be either existing or new projects, either short or long term. Nevertheless, the intention is to have an average 800,000-1 million dollars available at the GPA for the region. The region may decide whether they wish to implement one large project or e.g. four small ones. Other agencies in the region may be asked for advice or collaboration, and the final projects are to be submitted to UNEP's Regional Office for Latin America and the Caribbean. A list of candidate projects could be drafted right away, but no projects can be approved before the Montreal meeting, as here the proposed GPA workprogramme is to be discussed.

## **8. Compilation of the conclusions and recommendations drafted by the working groups - Presentation of conclusions**

Compilation of the conclusions and recommendations drafted by the working groups.  
Presentation of conclusions.

Less than 20% of wastewater is properly treated in Latin America, thus causing severe environmental, social and economic problems in the region. The issue is basically

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related to financial limitations, it is not easy to internalise the costs implied in waste-treatment. Efficient strategies are needed at the administrative, education and research levels, and so are innovative technologies and economic instruments that prove socially egalitarian. Among the most relevant aspects discussed during the meeting, the identification of key elements to devise a strategy from a Latin American joint perspective stands out.

Likewise, the group stressed that the main issue of the meeting was wastewater because of its relevance for the GPA, but it is in any case linked to the management of river basins, coastal areas, urban development and municipalities.

Several aspects were brought up during the meeting, such as the need for alternative sources of funds; the need to recondition and upgrade the existing infrastructure; the indispensable increase in the existing capacity to eliminate the service deficit; environmental education, training and awareness at every level and in every sector, including the administration; the effective availability of information and the active participation of all stakeholders. All of the above are premises to move forward and reach a holistic management of the region's basins and coasts.

Further case studies are necessary in the tropical and dry areas, for most of the regulations are drafted as a result of the case studies in warm areas, whose characteristics are not commonly found all through Latin America.

Indicators analyses are necessary to comparatively assess the region, and so are transparent data basis, made available to the general public.

After analysing several case studies in the region, no unique and ideal solution can be devised, but planning instruments (such as environmentally sustainable land use planning prior to additional construction) should be taken into consideration as key principles to move towards the holistic management of basins and coastal areas. Furthermore, the programmes for wastewater treatment must be linked to re-use, rational use of water and use of renewable energy.

### 9. Other Issues

No other issues were put forward.

### 10. Closing Session

The closing session was chaired by **Mrs. Luz Ma. Ortíz**, appointed to replace Mr. Hugo Guzmán who unfortunately had to be absent of the meeting as of the second day due to health problems. The following officers were also at the head table: **Mr. Pablo Edgardo Mesa** (Argentina) in his capacity of vice-chair, **Mrs. Paula Abarca** (Chile) in her capacity of vice-chair, **Mr. Pedro Dongo** (Peru) as rapporteur, **Mr. Cees van de Guchte** as representative of the Co-ordination Office of the GPA in The Hague, and **Mr. Ricardo Sánchez Sosa**, Regional Director for Latin America and the Caribbean of UNEP.

It was concluded that the meeting was successful in finding a common ground among the participants for setting the scene in finding innovative ways to actually address the many issues related to adequate municipal wastewater management. As the attendants represented the various countries in the region as well as a wide range of different stakeholders, this meeting has been an important stepping stone to initiate, anchor and strengthen concrete action which goes beyond traditional project settings. In exchanging existing experiences the meeting stimulated innovative partnerships to

emerge, which should be followed up by further capacity building through, amongst others, replicable pilot projects within the region. It was noted that the focus should not be limited to the municipalities of major coastal cities, but also mid-sized and non-urban communities should be stimulated to develop appropriate action.

# **Annex I**

## **Consolidated Recommendations as Drafted by the Working Groups**

**I. GUIDELINES (Based on Annex I to document UNEP/GPA/IGR.1/4, 22 August, original in English)**

<b>CURRENT CHAPTERS</b>	<b>UP-DATE 11 September 2001</b>
1. Stepwise and Integrated Approaches	<ul style="list-style-type: none"> <li>• Open a dialogue to link the green agenda to the brown agenda.</li> <li>• Include the river basins approach.</li> <li>• Add the hydro-social cycle: the value of water as a strategic resource.</li> <li>• Implement the principle of rational use of water.</li> </ul>
2. Financial and Economic Sustainability	<ul style="list-style-type: none"> <li>• Rating systems that include subsidies aimed at the less-favoured sectors, oriented to the promotion of higher coverage indexes in terms of service.</li> <li>• Transfer the decision-making process from the central governments to the local governments and grant the necessary funding, contributing to the role of the local governments in the creation of Basin and Coastal Areas Councils, so that all stakeholders can actively take part in the decision-making process.</li> <li>• Balance and integration of all management instruments for basins and coastal areas.</li> </ul>
3. Institutional Mechanisms	<ul style="list-style-type: none"> <li>• Promote the decentralised management of water.</li> <li>• Favour the participation of stakeholders in the water management institutions.</li> <li>• Implement a holistic approach in water management systems.</li> <li>• Integrate different international programmes linked to basin and coastal areas management.</li> <li>• Promote the integration of problem analysis and alternative solutions for municipal wastewater treatment as part of the environmental-urban management programmes known as Agenda 21, which are the guidelines for municipalities with regard to the Agreements reached during the Rio Summit held in 1992.</li> </ul>

<p>4. Participation of Stakeholders</p>	<ul style="list-style-type: none"> <li>• Promote and foster environmental education among all the stakeholders, in every sector and at every level.</li> <li>• Encourage the participation of all stakeholders from the water management institutions.</li> <li>• The setting of tariffs and subsidies should be aimed at ensuring the provision of sanitation services to all water users.</li> <li>• Use consensus-resulting methodologies to set tariffs for the payment of sanitation services.</li> <li>• Promote egalitarian (community-oriented) systems, seeking subsidies to aid the poor and provide them with sanitation services.</li> </ul>
<p>5. Innovative Technologies</p>	<ul style="list-style-type: none"> <li>• Disseminate the already proved good and successful practices throughout the region, favouring horizontal co-operation.</li> <li>• Include water re-use wherever possible and encourage the rational use of water.</li> </ul>

## KEY PRINCIPLES

<p>1. Political will and financial affordability are prerequisites for adequate wastewater management.</p>	<ul style="list-style-type: none"> <li>• Demonstrate political will and action at all government levels, as well as financial capacity to adequately manage water.</li> </ul>
<p>2. Environment, health and economy are equal important indicators for action.</p>	<ul style="list-style-type: none"> <li>• Implement the basin approach as the basic element to integrate the concepts of health, economy and environment.</li> </ul>
<p>3. Stepwise implementation of measures is essential to reach long-term management goals.</p>	
<p>4. Demand driven analysis and prognoses are to be adopted to ensure accurate investments.</p>	
<p>5. Sustainable solutions for wastewater management build upon pollution prevention at the source, efficient water use and best-available technologies <sup>1</sup>.</p>	<ul style="list-style-type: none"> <li>• Promote the implementation of "cleaner production" to the industries that produce liquid waste.</li> </ul>
<p>6. <b>Water User or Water Polluter</b> pays are basic principles to consider.</p>	<ul style="list-style-type: none"> <li>• Praise those who voluntarily de-pollute; provide incentives to those who do not pollute.</li> </ul>
<p>7. National and local governments are to take their responsibility in creating an enabling environment for sustainable</p>	<ul style="list-style-type: none"> <li>• Seek the balance in all management instruments.</li> </ul>

<sup>1</sup> The "Best Available Technologies" concept is used as under the GPA principles, thus including socio-economic factors.

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solutions.	
8. Commitment and involvement of all stakeholders are to be assured from the start.	<ul style="list-style-type: none"> <li>• Ensure the commitment and involvement of all stakeholders and assure it from the start.</li> </ul>
9. Public Private Partnerships and other new financial mechanisms are to be explored.	
10. Linking municipal wastewater management systems to other sectors, for example water supply or tourism, ensures better opportunities for adequate cost-recovery.	<ul style="list-style-type: none"> <li>• Linking municipal wastewater systems to all stakeholders ensures better opportunities for adequate cost-recovery.</li> </ul>
11. Innovative alternatives and integrated solutions are to be fully explored before final decisions or action are taken.	<ul style="list-style-type: none"> <li>• Innovative alternatives that favour renewable energies in integrated solutions are to be fully explored.</li> </ul>
12.	<ul style="list-style-type: none"> <li>• Social equity and rating systems that include subsidies aimed at the less-favoured sectors and oriented to the promotion of higher coverage indexes in terms of service.</li> </ul>
13.	<ul style="list-style-type: none"> <li>• Assessment of the scarcity of water (in terms of both quantity and quality).</li> </ul>
14.	<ul style="list-style-type: none"> <li>• A "water culture" and its role in wastewater management as a potential means to improve the quality of life.</li> </ul>
15.	<ul style="list-style-type: none"> <li>• The need for a media campaign in order to holistically promote a "water culture," where the need for proper treatment prior to discharge is stressed.</li> </ul>

## II. REGIONAL ANNEX. SPECIFIC PROBLEMS AND CHALLENGES.

### General:

- Less than 20% of wastewater is treated in Latin America; therefore, it is necessary to devise mechanisms to treat the remaining 80%. Thus, such task must be seen as a regional priority and assumed as a compelling matter.
- In Latin America, environmental issues tend to have a more social than economic character.
- There are bi-national and multi-sectoral hindrances to be overcome, thus joint efforts are the way to go.
- Water will be the "medium of exchange" for opportunities in the future.

### Administrative:

- The identification and implementation of national and regional actions should be based on a coherent framework, from priority policies, objectives and strategies that lead to the achievement of goals in the short, medium and long term.
- There is a lack of planning based on the principle of environmentally sustainable land use – this should precede any further construction development.
- The involvement of all stakeholders in the planning process is key. Such process must jointly take place with the Basin Management and Coastal Management processes, and regional programmes should be drafted for the management of shared water resources.
- Not all the countries have satisfactorily complied with the commitments adopted through several action plans in relation with the management of wastewater and the preservation of freshwater, coastal and marine ecosystems.
- Even though the "water user or pollutant pays" principle is already under consideration, it should be legally enforced.
- In spite of it being an increasing initiative, it is still important to promote and encourage technological conversion towards cleaner practices.
- It is necessary to prioritise the work leading to the drafting of legislation to ensure the preservation of environmental quality in water and coastal ecosystems.

### Financing:

- There are no universal solutions; hence, it is necessary to encourage the involvement of all sectors in financing the construction and operation of municipal treatment plants, in line with the local needs and conditions.
- So far, no financial autonomy has been reached; therefore, the setting of tariffs and subsidies should be aimed at ensuring the provision of sanitation to all water users.

### Research:

- Diffuse pollution demands further attention due to its complexity as compared to isolated pollution. However, it should not be put aside and further data diffuse pollution is a must.
- Semi-closed seas demand extensive attention, due to their low cleansing capacity.

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- There is a lack of monitoring/watch, assessment and follow-up of the quality of water in coastal areas; thus, efforts should come together in order to include the trained and skilled local institutions.
- There are few holistic studies made. It is important to include cost-benefit, environmental, social and economic analyses.
- It is necessary to standardise criteria to devise water quality standards and the inter-calibration of laboratories at the regional and sub-regional level.
- Databases that include comparable indicators and methodologies should be created, made available and disseminated.
- Further research is needed in the tariff system field.
- Administrative competence and ownership of water as a resource should be further analysed (water market).

**Environmental training and technical training:**

- Lack of a social perspective on the problem and lack of a "water culture"; therefore, environmental training programmes should, without delay, be implemented at every level.
- It is important to implement wastewater management programmes from a wider point of view, where they are seen as the trigger of institutional strengthening at every level.

**Technology:**

- There is installed capacity in some countries, but it is not always operative. Thus, it is necessary to make the right choices in terms of technology. Furthermore, it should be acknowledged that this is not only a technological, but operative problem, and the analysis should be coherent with the local conditions.
- It is advisable to analyse the technical and economic feasibility of separating the rain sewage system from the domestic sewage in order to improve treatment systems.
- Separate systems should also separate the rain overflow conducted to domestic sewage systems.

### III. IMMEDIATE ACTION

TYPE OF ACTION
<p>1. TECHNOLOGY-WISE</p> <ul style="list-style-type: none"> <li>• Implement re-use practices.</li> <li>• Optimise water use.</li> </ul>
<p>2. FINANCING</p> <ul style="list-style-type: none"> <li>• Establish financial strategies in line with the regional, national and basin priorities.</li> <li>• Devise self-funding schemes.</li> <li>• Create financial support sources.</li> <li>• Rating systems that include subsidies aimed at the less-favoured sectors, oriented to the promotion of higher coverage indexes in terms of service.</li> <li>• Create self-funding sources.</li> </ul>
<p>3. TECHNICAL TRAINING</p> <ul style="list-style-type: none"> <li>• Training to improve the role of supervision, management, and assessment.</li> <li>• Increase the trained personnel to cover different geographical areas, in terms of management and administration, as well as institutional strengthening.</li> <li>• To develop a response capacity in face of potential natural phenomena.</li> </ul>
<p>4. ENVIRONMENTAL EDUCATION/DISSEMINATION/AWARENESS-RAISING</p> <ul style="list-style-type: none"> <li>• Promote transparency in public information in: service quality indicators and environmental quality indicators.</li> <li>• Encourage the active participation of the media, the civil society and the ministries of education in awareness-raising activities.</li> </ul>
<p>5. RESEARCH</p> <ul style="list-style-type: none"> <li>• Develop service and environmental quality indicators.</li> <li>• Gather local background information to formulate quality regulations for water and discharge.</li> <li>• Carry out a Latin American diagnosis on management priorities, taking into consideration each country's capacity.</li> <li>• Case studies in tropical and dry areas.</li> <li>• Studies in unique places in the region.</li> <li>• Promote new management instruments (tool kits).</li> <li>• Evaluate the contribution to diffuse pollution in relation to isolated pollution.</li> </ul>
<p>6. LEGISLATION/RULES</p> <ul style="list-style-type: none"> <li>• Promote land use planning as an instrument (in terms of environmental units, such as the basins, integrating significant socio-economic variables in the same hierarchy as environmental, multi-sectoral and other variables).</li> </ul>

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<ul style="list-style-type: none"><li>• Up-date laws on water.</li><li>• Promote the spreading and overlapping of administrative roles with regard to water as a resource.</li></ul>
7. OTHER <ul style="list-style-type: none"><li>• Planning (basin-based).</li><li>• Formulation of public policies at the state level to address the use of water as a strategic resource.</li></ul>

IV. LIST OF PILOT PROJECTS. Does not include real cases, but ideal aspects to be incorporated into a project

CURRENT	NEW
The marine basin of the Californias	Regional basins shared by two countries.
	Tropical basins.
	Dry areas basins.

Pilot projects must be developed where no initiatives yet exist, or where the information is scarce or has not been consolidated. Furthermore, projects must take the following into consideration:

- Monitoring/Watch.
- Research.
- Generation of elements for the decision-making process.
- Regulations, enforcement and follow-up.
- Effective involvement of all stakeholders.
- Implementation of actions: a) priority-oriented, b) financial strategy and c) implementation periods.
- Institutional capacity building.