

PROJECT DEVELOPMENT FACILITY REQUEST FOR PIPELINE ENTRY APPROVAL



AGENCY'S PROJECT ID: WB PROMMA II P082950

GEFSEC PROJECT ID:

COUNTRY: Mexico

PROJECT TITLE: Water Resources Management
Project II – IWRM in the Lerma-Chapala-Santiago
River Basin

GEF AGENCY: World Bank (IBRD)

OTHER EXECUTING AGENCY(IES): Mexico

National Water Commission (CNA)

DURATION: Five (5) years

GEF FOCAL AREA:

GEF OPERATIONAL PROGRAM: OP 10

GEF STRATEGIC PRIORITY: International Waters
(IW-3)

ESTIMATED STARTING DATE: May 2006

ESTIMATED WP ENTRY DATE:

PIPELINE ENTRY DATE: (July 2004)

FINANCING PLAN (US\$)	
GEF ALLOCATION	
Project (<i>estimated</i>)	9,000,000
Project Co-financing (<i>estimated</i>)	90,000,000
PDF A*	
PDF B**	
PDF C	
<i>Sub-Total GEF PDF</i>	
PDF CO-FINANCING (details provided in Part II, Section E – Budget)	
IBRD/IDA/IFC	
Government Contribution	
Others	
<i>Sub-Total PDF Co- financing:</i>	
<i>Total PDF Project Financing:</i>	

* Indicate approval date of PDFA:

** If supplemental, indicate amount and date of
originally approved PDF:

RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT:

(Enter Name, Position, Ministry)

Date: (Month, day, year)

This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for approval.

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PART I - PROJECT CONCEPT

A - SUMMARY

BACKGROUND

Mexico has critical and urgent water related problems including the overexploitation and contamination of surface water and groundwater resources in the most important regions of the country in terms of population and contribution to GDP. The present situation is clearly not sustainable in the medium and long term. If not addressed soon, this situation will become an obstacle to continued economic development and will have serious social impacts including the possible abandonment of important parts of the country by significant parts of the population.

Mexico is at the vanguard of developing countries in many aspects of water resources management and use. Under the ongoing Water Resources Management Project – (Programa para la Modernización del Manejo del Agua - PROMMA), Mexico has made significant improvements in: (a) monitoring and assessment of surface and groundwater quantity and quality; (b) improvements in the operation of hydraulic infrastructure and dam safety; (c) improve meteorological and hydrological forecasting; (d) water resources planning at the basin level; (e) water rights administration and discharge control; (f) river basin council and aquifer committee establishment and strengthening; and (g) preparation of studies related to the integrated and sustainable management of water in some areas with overexploited aquifers.

THE LERMA-CHAPALA-SANTIAGO BASIN

The Lerma-Chapala-Santiago River Basin incorporates about 15% of the population and 33% of the GDP of Mexico. The resources in the region are crucial to the lives of close to 15 million people including the cities of Guadalajara and Mexico City. The rural population is currently 32%. Regional socio-economic development has been triggered by water availability and industrial and agricultural production per capita have surpassed national levels. This region boasts 9,200 industries which generate 33% of the GDP and 20% of all national commerce occurs within this basin. Furthermore, it currently comprises over 1 million hectares of irrigated agriculture in Mexico (1/8 of all irrigated land in Mexico). The basin is also significant because of its biodiversity and its ecological habitats. The Chapala, Patzcuaro and Cuitzeo lakes; the Monarch Butterfly Sanctuary; Nevado de Toluca and the Lerma headwaters are all located within its boundaries. In the Lake Chapala sub-basin alone, there are over 7,000 native plants, in excess of 170 mammals, 525 species of birds and more than 300 aquatic species. It provides a habitat to a variety of fish including the *popocha* – *now a threatened endemic species*, white fish and *charales* as well as a number of migratory birds from North America during the winter, including the White pelicans migrating from central Canada. The outlet of the Santiago River is located near the town of San Blas, an important ecotourism location in large part because of its mangroves and biodiversity.

The Lerma-Chapala-Santiago basin includes fractions of the states of Colima, Nayarit, Aguascalientes, Mexico, Querétaro, Guanajuato, Jalisco, Zacatecas and Michoacán. The basin is a tropical region with an area of 192,000 km², an average temperature of 19°C, and

an average rainfall of 671 mm a^{-1} , mainly concentrated in the summer, from which a mean run-off of 5.19 km^3 is derived. The River Lerma with a length of 750 km originates in Mexico's central high plateau at an altitude above 3,000 m above sea level (masl). The river ends in Lake Chapala (1,510 masl) which is the largest tropical lake in Mexico, 77 km long and 23 km wide. The maximum storage capacity of the lake is 8.13 km^3 and the surface area is about 110,000 ha. The lake is also rather shallow; its average depth is 7.2 m, with a maximum of just 16m. The 547km long River Santiago arises from Lake Chapala and flows westwards finally reaching the Pacific Ocean. The Santiago River basin is less developed in terms of population and economic activity, except for Guadalajara, the second largest city in Mexico, and with a metropolitan area with more than 3.5 million inhabitants. It regulates the Lerma–Santiago water basin (the Lerma River is the main water supplier to the lake, which is then drained by the Santiago River and has been an important climate regulator in the region).

The region has been divided into 5 sub-regions for water management and planning purposes: Upper, Middle and Lower Lerma; Upper and Lower Santiago. In the sub-regions of the Upper, Middle and Lower Lerma and the Upper Santiago, demand exceeds the natural water resources availability, while the converse is true for the sub-regions of the Lower Santiago and the Jalisco coastal zone. Based on data from the Secretariat of Environment and Natural Resources (Secretaría del Medio Ambiente y Recursos Naturales, SEMARNAT) $14,500 \text{ hm}^3/\text{year}$ of water is extracted for consumptive uses, 51% of which come from surface water sources and 49% from underground sources. 79% of this volume is used for irrigation, 11% for urban water supply, 9% in industry and 1% for tourism, recreation and fishing collectively.



PROBLEMS

As a result of increased human activity in the water basin over a short period of time, the basin now has the following major problems: water scarcity, pollution of surface waters, over-exploitation and contamination of groundwater, deforestation, soil erosion, loss of biodiversity and increasing falling levels of the major lakes. Conflicts derived from the water-using sectors (mainly for irrigation and potable water supplies), combined with the general discharge of untreated effluents, have given rise to serious regional, and local, water quantity and quality problems. This has been exacerbated by a reduction in forest cover and soil degradation as a result of commercial logging, land conversion for cultivation and over-grazing by livestock.

Lake Chapala in particular, has suffered a series of important transformations that would otherwise have taken much longer. Its waters have been polluted by municipal, industrial and agricultural liquid wastes mainly from the Lerma River, which receives wastewaters along large sections of its course, and runs for around 700 km to the lake. The erosion caused by deforestation and by changes in land use across the Lerma basin has led to an increased flow of sediments into the lake. This, in turn, has increased water turbidity, affecting the lake's biological production. The accumulation of sediments has contributed to a loss of depth, which is already quite serious due to the decreasing amount of water supplied by the Lerma River. The shallowness of the lake has increased its water temperature, leading to higher evaporation rates. Increasingly, large areas of the lake's surface are being invaded by *lirio acuático* (water hyacinth), a plant that feeds on the nutrients that have flowed into the lake. The water hyacinth exacerbates the loss of water through evaporation, limits light penetration into the water and constrains the free movement of boats, thus having an impact on fishing and recreational activities. Although different studies catalogue the pollution of the lake's waters differently, it is acknowledged that the presence of organic matter, detergents, heavy metals and pesticides has decreased fish stocks. (Some endemic species, such as the *popocha*, are about to become extinct.) The lake's pollution also poses a threat to human health through the consumption of contaminated fish and is an economic challenge for the more than 2,000 local residents who still depend on fishing for their livelihoods.

It is also one of the most over-committed water basins in the world, with total water depletion exceeding supply by an average 10% in past years. Some 26,000 deep water wells operate within the Lerma-Chapala basin, with very low efficiency rates, due to their high electricity consumption and rather low water yields. Almost 70% of all 38 aquifers in the region are overexploited. Unchecked groundwater pumping has produced declines in aquifer levels of 2.1 m/yr (overexploitation is estimated at about 1 billion m³/year), while surface water depletion exceeds availability in all but the wettest years, when considering the needs for environmental purposes including inflows to Lake Chapala. The situation is particularly serious in the Lerma Basin, where more than 50% of the catalogued aquifers are over-exploited (annual recharge deficit of 690 hm³) and in the Upper Santiago region where the deficit in annual recharge is 540 hm³/year.

Industries as well as most towns, located in the basin are mainly supplied by groundwater sources (90 per cent). The most important industries concentrate their activities on meat, dairy and other agricultural produce, beverages, pulp and paper, leather goods, petrochemical

and chemical products, all with little or no emphasis on wastewater treatment and recycling. Development in the Lerma-Chapala basin is largely sustained by intense water use. Industries in the basin generate around $0.608 \times 10^3 \text{ m}^3 \text{ a}^{-1}$ wastewater with $48,130 \text{ t a}^{-1}$ biochemical oxygen demand (BOD) coming from urban waste and $424,260 \text{ t a}^{-1}$ chemical oxygen demand (COD) coming from industrial discharges. In addition, only about 30% of municipal waste water is being treated. These high organic and inorganic pollutant loads and the insufficient wastewater treatment capacity have intensified water quality problems and severely reduced water availability. Diffuse pollution caused by drainage containing fertiliser and insecticide residues from irrigated areas, together with solid waste washed away by rain from rural households lacking domestic waste disposal systems for excreta and rubbish, have also contributed to the water quality problems. The contamination reaches to and affects the Mexican Pacific coastal zone and the Pacific Central American Coastal Large Marine Ecosystem.

At the same time, from Lake Chapala, water is pumped for the municipal water supply for Guadalajara's more than 3.5 million population. Lake Chapala's outlet, River (Rio Grande de) Santiago receives the drainage of Guadalajara. With regard to water resources, Guadalajara is significant to the river basin in two ways. The first relates to satisfying its water demand, where there is continued stress upon Lake Chapala, depleting local aquifers, and the ecological, social and economic conflicts; and the second relates to the discharge of untreated urban and industrial wastewater. The Santiago River is the natural drainage path from Lake Chapala to the Pacific Ocean, and receives around $9,000 \text{ l}^3 \text{ s}^{-1}$ of polluted water from Guadalajara. It now sustains very little life along long stretches of its 547 km before reaching the ocean, impacting on natural ecosystems and affecting the use of its water by other cities, smaller towns and farmers.

ACHIEVEMENTS TO DATE

Some progress has been made relating to the issues of zoning, water uses, sanitation, rational water use and management. Specifically, as a direct result of a Master Water Plan and in close co-ordination, the National Water Commission (Comisión Nacional del Agua; CNA) and the Lerma-Chapala Basin Council has implemented an ambitious "Large-Scale Sewage Treatment Program" to clean up the pollution in the region. The wastewater treatment programme was planned in three stages. The first stage, which ended in December 1994, was aimed at reducing the organic pollution impact on the Lerma River basin by 50 per cent and by 65 per cent in Lake Chapala. The goal was to build and operate 48 plants for municipal waste-water treatment, with an overall capacity of $3,700 \text{ l s}^{-1}$. Global capital investments have been close to 367 million pesos (approximately US\$ 80 million). The second stage of the Lerma-Chapala clean-up programme, which is already under way, aims to increase treatment capacity to $10,670 \text{ l s}^{-1}$ of municipal and industrial wastewater by means of constructing and operating 52 new plants and expanding five existing facilities, with a total investment of 1,200 million pesos (US\$ 150 million). By 1997, 45 plants with a treatment capacity of $5,720 \text{ l s}^{-1}$ were operating on a regular basis with an average running efficiency of around 70 per cent. A third stage of the Large-Scale Sewage Treatment Program includes building 50 additional facilities orientated to meet the needs of small townships and rural communities is planned. These plants will boast a total treatment capacity of $1,833 \text{ l s}^{-1}$.

NEEDS

Today, water quality on the main river reaches has significantly improved. Yet, there is still a long way to go. Lake Chapala is the largest natural lake in Mexico and also a major source of water for Guadalajara, Mexico's second largest city. Many small townships and rural dwellings still lack adequate sanitation and there are more than 9,200 industries in the basin. Though there has been an established river basin council in the Lerma-Chapala Basin since 1992, there have been periods of relative inactivity and reorganization has been needed at least once. In addition, while it has been found that BOD has been reduced, all the treatment plants built for urban wastewater are traditional and, therefore, nutrient removal is practically nil. Agricultural discharges loaded with fertilizers and pesticides are largely not being considered. From the case of the Lerma-Chapala basin, the inextricable linkages between urban-rural issues, in which a solution for one sector can be obtained at the expense of other groups in society are evident, which then emphasizes the need for integrated and sustainable management of the water resources. In addition, all of these basin problems contribute to, or are related to, environmental problems in the coastal zone which include: sedimentation; oligotrophication of coastal waters; alteration of river flow regimes; reductions in numbers and diversity of fish populations; and increased incidence of endemic diseases.

The Lerma-Chapala Santiago system is not only fundamental to the economy of Mexico, but to the hydrological balance of its occidental region, the environmental equilibrium of the Pacific Central American Coastal Large Marine Ecosystem, the preservation of biodiversity and the climate. In addition, Lake Chapala is of historic, ethnic and cultural importance to the country and its people. Some of the most important original towns like the Huicholes, even today still keep their sacred places in the hearth of the lake. For the original civilizations of the region, the water, and particularly Lake Chapala, constitute sacred places, symbols of their identity and of their vision of life. Lake Chapala has been declared part of Mexico's national heritage and measures are needed to ensure its protection.

In this context, there is urgent need for incorporation of land-based environmental concerns into development policies, plans and programs for the Lerma-Chapala-Santiago Basin for the protection of the lake, the freshwater courses and its coastal zone; and, for an integrated approach to management of the basin and the coastal zone. The World Bank will continue as a strategic partner of Mexico in its water-related activities, and the Water Resources Management Project II (PROMMA II) would build upon the progress made under PROMMA I which has laid the foundation for further improvements as well as begin to address the serious water resources problems directly with water users in this critical river basin. The GEF support is sought to complement and enhance PROMMA II by bringing international best practices on integrated water resources management (IWRM) in terms of both quantity and quality.

B - COUNTRY OWNERSHIP

1. COUNTRY ELIGIBILITY

2. COUNTRY DRIVENNESS

Mexican objectives as iterated in the 2001-2006 National Water Plan are: (a) to achieve integrated and sustainable management of water resources in the country's basins and aquifers with the participation of water users; (b) to increase water use efficiencies in irrigated agriculture and in municipal and industrial use; (c) to promote efficient financial management in water resources related activities; (d) to reduce the risk and mitigate the effects of floods and droughts; and (e) to decentralize operation functions presently realized by central government agencies to states, municipalities and users. The 2001–2006 Environment and Natural Resources Program (ENRP) provides a framework for the country's environmental policy. One of the underlying pillars of the ENRP is (a) integrated ecosystem management: focus on ecological rather than political boundaries in the management of water, land, air quality, forests and biodiversity.

On April 15, 2004, a new Country Assistance Strategy (CAS) by the World Bank in partnership with Mexico was introduced which projects about \$1.2 billion a year in new lending between July 2004 and June 2008, in order to support the development agenda of Mexico. The CAS focuses on fighting poverty and inequality, increasing competitiveness, strengthening institutions, and promoting environmental sustainability in the country. Specifically in terms of environmental governance (No.48) since the mid-1990s, decentralization has become a key policy priority. Agreed priority issues include: (a) overexploitation of surface and ground water; (b) minimizing use of scarce water resource for low value crops; (c) lack of a strategic consensus between key stakeholders; (d) inadequate water rights administration (mainly due to over-allocation of water rights); and (e) high subsidies for pumping groundwater and inappropriate pricing of water.

The National Congress approved a new National Water Law (Ley de Aguas Nacionales, LAN) in December 1992 and its regulations in January 1994. Significant changes to the law were recently enacted including the role of key water agencies such as CNA; polluter fines; and the permitting process. The new law also strongly emphasizes decentralization and water resources management at the river basin level. The LAN sets out broad based mandates for the development and implementation of plans and policies related to water resources management. The responsibility for responding to these mandates was assigned to Mexico's National Water Commission (Comisión Nacional del Agua, CNA). The stated objective of the law is "to regulate the extraction, use, distribution and control of the nation's waters as well as preserve their quantity and quality in order to achieve sustainable integral development". A key title of the new law deals with the "Prevention and Control of Contamination, and Responsibility for Environmental Damages." So, in accordance with the National Water Plan and the LAN, CNA has set a new agenda to manage the nation's water resources considering all uses and the preservation of the environment. In this context, the proposed GEF financing will accompany and leverage a large WB lending operation (PROMMA II) which jointly will support the implementation and further definition of the new principles established in the LAN, especially those related to the issues of public participation, decentralization and institutional strengthening for sustainable water

management. The basin approach aims to operationalize IWRM for the enhanced sustainability of the basin ecosystems and the coastal and marine environment, and will serve as a model to be replicated in other basins.

C – PROGRAM AND POLICY CONFORMITY

1. PROGRAM DESIGNATION AND CONFORMITY

The contamination and over-exploitation of surface and ground waters, the progressive deforestation and soil degradation affecting the basin's water resources and biodiversity are not limited by the national border, but also have broad consequences, as they affect the coastal zone and marine ecosystems, including the migratory species. Therefore, the primary objective of the project is to catalyze a more integrated approach to water resources management in the Lerma-Chapala-Santiago Basin to improve the basin, adjacent coastal and marine environments, particularly by reducing water pollution and water scarcity. The project would also consider the need for environmental flows in rivers, flood plains, wetlands, lakes and into coastal and estuary waters. The integrated framework would allow better understanding of important surface-subsurface and water quality interactions, and facilitate important new management approaches. As such, the proposed actions are consistent with the GEF principle of linking project elements with major cross-cutting issues such as land degradation and mitigation of persistent organic pollutants.

The proposed GEF grant therefore falls under Operational Program 10 of the International Waters Focal Area, and specifically under IW-3 of OP10: the Contaminant-Based Program. Moreover, the project has direct relevance for the Global Programme of Action (GPA) for the Protection of the Marine Environment from Land-based activities. OP 10 is also the only International Waters program which does not require the project to be tied to a multi-country collaborative effort.

In accordance with OP 10, the project will support innovative interventions in IWRM addressing water quantity and water quality issues in an integrated manner. The project will demonstrate new and cost-effective measures to reduce land-based sources of pollution and to reduce water consumption to sustainable levels, while at the same time allocating and managing water resources to meet environmental needs within the basin including outflows to the sea. The global benefits are an international demonstration of innovative improvements in IWRM in the basin and improvements in the coastal and marine environment, and the demonstration-dissemination-replication regionally and nationwide of compliance with the GPA.

The GEF projects in the Sao Francisco basin in Brazil and the Hai basin in China have similarities with the proposed project. All three projects are dealing with highly complex water resources management issues and support moving towards sustainable IWRM in critically important river basins. Twinning relationships and interchanges will be sought with these projects in order to enhance the complementarity and transfer of lessons learned.

2. PROJECT DESIGN

The proposed GEF-project addresses an important missing link in efforts to improve IWRM in the Lerma-Chapala-Santiago Basin. Other GEF and Mexican initiatives are addressing different aspects of water resources management but have yet to achieve much success because of lack of an integrated approach. Consistent with Par. 10.5 for GEF Operational Programme 10, the project would “play a catalytic role in demonstrating ways to overcome barriers to the adoption of best practices limiting contamination of international waters.” The general approach taken would be to develop an IWRM framework and a top-down and bottom-up approach with participation of water users and other stakeholders, to deal with water scarcity, groundwater mining, and water pollution. The proposed project would significantly enhance and co-finance PROMMA II by bringing international best practices including innovative new practices to IWRM in the Lerma-Chapala-Santiago Basin.

Improving water resources management and reducing pollution into the ocean is best done within an IWRM framework. Although government policy calls for an integrated framework, inter-jurisdictional and inter-administrative cooperation often proves difficult in practice. The GEF grant would provide support to overcome institutional barriers and provide a powerful demonstration effect. The international expertise that will accompany the GEF project will provide Mexico with a broad range of management experiences and instruments upon which to draw.

The GEF project will serve as a complement and link to the PROMMA II project and within this context, the project development objectives are: (a) to improve conditions for sustainable IWRM and use through integrated planning and actions; and (b) to detain the accelerated decline in both quantity and quality of water resources in the Lerma-Chapala-Santiago river basin. Building upon previous studies, including PROMMA I, this project also aims to promote environmentally sustainable development of the basin as a means of managing environmental degradation of the coastal zone. The project will include the identification and implementation of appropriate solutions, for incorporation of land-based environmental concerns affecting the coastal zone into the development policies, plans and programs.

The proposed PROMMA II project will have three components and the GEF grant will support complementary aspects of each. The PROMMA II project objectives and components are detailed in **Annex 1**.

The first component of PROMMA II would support 'top-down' actions in order to consolidate and strengthen policies, strategies, plans and actions in an integrated manner at the central level and in priority basins in the central and northern part of the country where there is serious overexploitation and contamination of water resources. This component will support improvements in IWRM including both technical and institutional aspects in the Lerma-Chapala-Santiago basin. During the PDF-B grant preparation phase, a preliminary IWRM plan for the Lerma-Chapala-Santiago basin will be developed and agreed. This will explicitly define the series of activities and actions to be implemented and the deliverables during the project implementation phase.

GEF COMPONENT 1 - Development of an IWRM Plan

Under the first component, the GEF grant will include support for refining and detailing the IWRM plan and preparation of strategic studies and policy initiatives on different aspects of IWRM in the basin, in support of: (a) monitoring and assessment of surface water and groundwater in terms of quantity and quality, including the classification of discharges and receiving water bodies as set out in the new National Water Law (LAN - Ley De Aguas Nacionales); (b) public participation, decentralization and institutional strengthening for sustainable water management under the new National Water Law; (c) introduction of new remote sensing technologies to estimate actual evapotranspiration (ET) and the utilization of these techniques in water resources management on a basin-wide basis; (d) development and implementation of a unified water data base; (e) improvements in basin water and environment modeling; (f) improvements in the norms and related systems for water rights administration and water fee collection; (g) demand management of water; (h) reducing non-recoverable water losses and for wastewater reuse; and (i) reductions in sedimentation, oligotrophication of coastal waters and improvements in numbers and diversity of fish populations in the coastal zone.

Expected Outcomes

The outputs of the component 1 will include development of strategic studies and an IWRM plan in support of an integrated approach and vision for the management of the Lerma-Chapala-Santiago Basin and its coastal zone; improved quantification of water use, use conflicts and hydrological management; an evaluation of the environmental impacts of the river basin on the coastal zone; an assessment of different scenarios for basin management to minimize detrimental impacts on the estuary and coastal zone.

The second component of PROMMA II would support 'bottom-up' actions on specific projects in about 5 sub-basins within priority basins, at least 3 of which (supported by the GEF grant) would be within the Lerma-Chapala-Santiago River Basin. These projects would benefit from the experience, methodology and lessons learned in PROMMA I. This would include participatory approaches to reducing water pollution and reducing water consumption in local areas working with water user groups and local communities. ET management using remote sensing technologies would be used in local areas to achieve improvements in water productivity and reductions in water consumption.

GEF COMPONENT 2 - Demonstration projects

The GEF grant will specifically support several practical studies and tentatively 3 small demonstration projects in sub-basins within the Lerma-Chapala-Santiago basin, that will provide direction and a sound basis for the PROMMA II second component actions, in aspects such as: (a) pollution control including discharge control, wastewater management in towns and rural areas, land/runoff models and systems to control non-point source pollution, and sediment and nutrient load reduction; (b) demand management including water measurement, pricing, water rights management and leakage control; (c) water savings in irrigated agriculture including ET management; (d) wastewater reuse substituting wastewater for overexploited groundwater use; (e) ecological restoration and (f) coastal zone management. In line with the Global Programme of Action (GPA) for the Protection of the

Marine Environment from Land-based activities, the projects will demonstrate a commitment to action on the ground involving different stakeholder groups; generate awareness, support and incentives for the continued development of the basin; contribute to development of a model that can be replicated and updated.

Expected Outcomes

The outputs of the component 2 will include practical studies and demonstration projects for improved river basin and coastal zone environmental management dealing with water use conservation, biodiversity protection, pollution reduction and prevention, and sustainable production activities. Public and stakeholder participation through hands on-type involvement of communities in the remedial measures will also be improved.

The third component of PROMMA II would support institutional development and project management at the central, regional, state and local levels, and specialized training related to project implementation in areas such as IWRM, project management, communication and awareness building.

GEF COMPONENT 3 - Development and Strengthening of water user organizations, river basin councils and aquifer committees.

In component 3, the GEF grant would support development and strengthening of these entities in the Lerma-Chapala-Santiago basin and would include consensus building, conflict management and other techniques to help reach agreements amongst water users and local communities to achieve sustainable IWRM.

Expected Outcomes

The outputs of this component will include improved organizational structure, capacities and capabilities needed to implement the new Water Law reforms; improved public participation mechanisms; strengthened stakeholders' involvement and public-private partnerships in the basin management and implementation of remedial actions.

GEF COMPONENT 4 - Support to the 4th World Water Forum

The GEF grant would also support activities related to the 4th World Water Forum to be held in Mexico in March 2006. The PROMMA II project with emphasis on the GEF supported activities would be highlighted as a practical example of how severe water quantity and water quality management problems are being addressed in one of Mexico's most critical and important basins. Although it is anticipated that the grant/loan will not become effective until May 2006, project preparation funding and the retroactive financing under the IBRD loan would be used to support 4th World Water Forum related activities.

Expected Outcomes

Presentation, dissemination and demonstration at the 4th World Water Forum of an example of freshwater basin and coastal zone development and management using IWRM approaches in a complex and important river basin system.

3. SUSTAINABILITY (INCLUDING FINANCIAL SUSTAINABILITY)

The project would work directly with and strengthen the existing Lerma-Santiago River Basin Council and the auxiliary sub-basin commissions and aquifer committees, which have considerable interest and commitment to achieving and sustaining integrated water resources management in the basin. The project would also strengthen federal and local water agencies. The project would also support the definition and adoption of sustainable financing mechanisms to implement plans developed under the project and future programs in the basin. Financial management and operational development plans would be a condition for financing and would be monitored during project implementation. The project would support implementation of the new National Water Law in the Lerma-Chapala-Santiago basin supporting the operationalization of a regionalized and river-basin approach to water resources management as envisioned in the new law, both in terms of IWRM and financial sustainability. The new law includes a requirement to define and implement a water financing system, and the project will support the operationalization of this system in the Lerma-Chapala-Santiago basin.

4. REPLICABILITY

This project will only support improvements in integrated water resources management in the Lerma-Chapala-Santiago river basin - a small portion of the areas in northern and central Mexico suffering from unsustainable use and management of water resources. But, since Mexico has identified the need for achieving sustainable management of water resources as a priority national objective and is committed to replicating good practices demonstrated under the project, the Project will be designed to be highly replicable. The development of demonstration projects at the county level provides an excellent opportunity for replicability because the water and environment issues in much of the northern and central parts of Mexico are very similar to those being experienced in the Lerma-Chapala-Santiago basin and the local project areas in the basin. Successful demonstration projects in this Basin would therefore be very applicable for replication throughout the northern and central regions. The Project will include significant interaction amongst the project areas in the form of study tours and workshops to the different project areas so that they learn from each other. In addition, the practical integrated water and environment approaches to be implemented in the Project address problems of water scarcity and pollution that are common in many other parts of the world. Therefore the potential for global replicability is also large. Many of the project activities will support implementation of the new National Water Law in the Lerma-Chapala-Santiago basin and this will serve as a powerful example for implementation of the new law in other parts of the country.

5. STAKEHOLDER INVOLVEMENT/INTENDED BENEFICIARIES

Mexico has a history of water user participation in irrigation and through river basin councils and aquifer committees. The National Water Commission (Comisión Nacional de Agua – CNA) and the Lerma-Chapala Basin Council will therefore be major stakeholders. The project would build on their experience and work to utilize it in developing more concrete sustainable water resources management goals in local specific areas. Water User Associations (WUAs) will also be involved as 'bottom -up' approaches are key to this project. Lake Chapala is considered a national treasure so there is strong national and local support

for preserving the lake - the relevant agencies working on this effort will also be involved. During project preparation a Stakeholder participation plan will be developed.

D - FINANCING

1) FINANCING PLAN

US\$ 9.0 MILLION, GEF GRANT

2) CO-FINANCING

US\$ 50.0 MILLION, PROMMA II LOAN

US\$ 40.0 MILLION, GOVERNMENT OF MEXICO (GOM)

E - INSTITUTIONAL COORDINATION AND SUPPORT

1) CORE COMMITMENTS AND LINKAGES

The implementation arrangements will build upon the existing management structures within the National Water Commission for the PROMMA project and preparation arrangements for the PROMMA II project. The following agencies will be involved in project preparation and implementation:

CNA, National Water Commission (COMISIÓN NACIONAL DE AGUA)

SEMARNAT, Secretariat of Environment and Natural Resources (Secretaría del Medio Ambiente y Recursos Naturales)

NAFIN - National Financiera (national development financing agency)

SAGARPA, Agriculture & Rural Development Ministry

SHCP, Finance & Public Credit Ministry

WMO (World Meteorological Organization - OMM - Organización Mundial de Meteorología)

The state governments of Guanajuato, Queretaro, Aguascalientes, Jalisco

The Lerma-Chapala River Basin Council

Technical aquifer committees for aquifers within the basin

2) CONSULTATION, COORDINATION AND COLLABORATION BETWEEN AND AMONG IMPLEMENTING AGENCIES, EXECUTING AGENCIES, AND THE GEF SECRETARIAT, IF APPROPRIATE.

In executing this project, some collaboration will be sought with the GEF projects in the Sao Francisco basin in Brazil and the Hai basin in China in order to enhance the complementarity and transfer of lessons learned. Possible collaboration with UNEP/OAS will also be considered as WB has established good relations with UNEP/OAS in Mexico and UNEP/OAS has demonstrated experience in the water sector there. UNEP/OAS could possibly focus on the formulation of the Environmental Strategic Action Program with specific emphasis on the environmentally sensitive areas such as Lake Chapala, wetlands, coastal zones, mangroves, and the like. This collaboration will be explored and detailed further in PDF-B preparation.

3) IMPLEMENTATION/EXECUTION ARRANGEMENTS

A Project Coordinating Committee and with participation from the various Ministries, will be responsible for coordinating the smooth implementation of the Project.

High-level Steering Committees headed by Vice Ministers and a Project Management Office will be responsible for implementing their parts of the Project in coordination with each other, at the sub-basin level and with the municipalities. Leading groups and the Project Management Office will be responsible for implementing their parts of the Project in coordination with each other.

Monitoring and Evaluation

A detailed monitoring and evaluation (M&E) plan will be developed during project preparation and carried out during project implementation. The M&E plan will include the monitoring of specific measurable indicators, the baseline information for which will be determined during project preparation. Measurable indicators will include items such as:

- Reduction in total pollution from point sources by type and source.
- Reduction in fertilizer application rates.
- Reduction in annual withdrawals of surface water and groundwater.
- Increase in amount of water subject to recycling and reuse schemes.

Annual information relative to project implementation and the measurable indicators will be collected and evaluated, and consolidated into an annual report.

ANNEX 1

PROJECT CONCEPT NOTE MEXICO

Water Resources Management Project II – PROMMA II

1. Key development issues and rationale for Bank involvement

Mexico has critical and urgent water related problems including the overexploitation and contamination of surface water and groundwater resources in the most important regions of the country in terms of population and contribution to GDP. The present situation is clearly not sustainable in the medium and long term. If not addressed soon, this situation will become an obstacle to continued economic development and will have serious social impacts including the possible abandonment of important parts of the country by significant parts of the population.

The Bank has a long history of assistance to Mexico in water resources management, irrigation and drainage and water supply and sanitation. Beginning in 1975, the Bank and UNDP supported Mexico in the development of the first comprehensive national water plan. Drafting of the modern 1992 water law was supported by Bank and FAO assistance. (A new version of the Law has recently been approved by the Mexican congress and is awaiting signature by the President.) A series of irrigation and drainage and water supply and sanitation projects have greatly assisted Mexico in development of hydraulic infrastructure and in major institutional reform.

Mexico is at the vanguard of developing countries in many aspects of water resources management and use. Under the ongoing Water Resources Management Project – (*Programa para la Modernización del Manejo del Agua* - PROMMA), Mexico has made significant improvements in: (a) monitoring and assessment of surface and groundwater quantity and quality; (b) improvements in the operation of hydraulic infrastructure and dam safety; (c) improve meteorological and hydrological forecasting; (d) water resources planning at the basin level; (e) water rights administration and discharge control; (f) river basin council and aquifer committee establishment and strengthening; and (g) preparation of studies related to the integrated and sustainable management of water in some areas with overexploited aquifers.

The Bank is presently supporting the recently approved Irrigation and Drainage Modernization Project and is supporting the preparation of a new operation to finance infrastructure and new management approaches in water supply and sanitation in urban areas. In addition, there is ongoing sector work on water rights and additional sector work on different aspects of water resources management and use is planned for the coming years, including the economic value of water, water governance and institutionality, water related environmental health and water quality management.

The Bank should continue as a strategic partner of Mexico in water related activities. Mexico still has a long way to go to achieve sustainable integrated water resources management and use. The Water Resources Management Project II (PROMMA II) would build upon the progress made under PROMMA and begin to address and solve the serious water resources problems

directly with water users in critical river basin and aquifers. The foundation laid by the first project will enable this further improvement.

a. Proposed project development objective(s)

Mexican objectives as iterated in the 2001-2006 National Water Plan are: (a) to achieve integrated and sustainable management of water resources in the country's basins and aquifers with the participation of water users; (b) to increase water use efficiencies in irrigated agriculture and in municipal and industrial use; (c) to promote efficient financial management in water resources related activities; (d) to reduce the risk and mitigate the effects of floods and droughts; and (e) to decentralize operation functions presently realized by central government agencies to states, municipalities and users.

Within this context, the Project Development Objectives are: (a) to improve conditions for sustainable integrated water resources management and use; and (b) to detain the accelerated deterioration of water resources in selected areas.

To achieve these objectives, Project activities would be designed recognizing that water resources management is both a top-down and a bottom-up undertaking. Top-down aspects include policies, laws, standards, allocation of water between uses and technical assistance. Bottom-up aspects recognize that effective water resources management requires the direct participation of water users and other stakeholders. Integrated water resources management includes: (a) surface water and groundwater in terms of both quantity and quality; (b) the reuse of treated effluent; (c) economic valuation of water as a scarce resource in the agriculture, industrial and service sectors; (d) protecting and preserving the environment; (e) flood and drought management; and (f) institutional integration of the various private and public support programs from different levels (international, national, state, municipal, local)

3. Preliminary project description

The proposed PROMMA II would have three components with a total cost estimated at US\$180 Million financed with an IBRD loan of US\$100 Million and US\$80 Million of national counterpart funds.

The first component would support top-down actions in order to consolidate and strengthen policies, strategies, plans and actions in an integrated manner at the central level and in priority basins in the central and northern part of the country where there is serious overexploitation and contamination of water resources. The principal activities under the component would include: (a) consolidate and strengthen programs to improve monitoring and assessment of surface water and groundwater in terms of quantity and quality, including the classification of discharges and receiving water bodies as set out in the National Water Law; (b) improving flood management and control; (c) introduction of new remote sensing technologies to estimate actual evapotranspiration (ET) and the utilization of these techniques in water resources management; (d) develop and implement a unified water data base; (e) improve water resources planning and the evaluation and prioritization of investments; (f) establish regional centers to apply and disseminate advanced technologies for water savings and economic valorization in irrigated

agriculture; (g) improve the norms and related systems for water rights administration and water fee collection; (h) design and test tariffing schemes to improve demand management of water; and (i) design and test schemes for reducing non-recoverable water losses and for water reuse.

The second component would support bottom-up actions on specific projects in sub-basins within priority basins. These projects would benefit from the experience, methodology and lessons learned in PROMMA and would include: (a) concrete actions related to integrated and sustainable management and use of water resources for both surface water and groundwater in terms of quantity and quality such as local effective water rights administration and discharge control, as well as pricing/measurement and valuation actions, including water rights buy back; (b) actions in water supply and sanitation and modernization of irrigated agriculture such as wastewater reuse, cropping pattern adjustments and deficit irrigation; (c) intersectoral transfer of water to improve socioeconomic productivity and environmental benefits; and (d) regulation of water rights in aquifers and basins in accordance with the National Water Law. The projects would need to contribute directly and measurably to reductions in the overexploitation and/or contamination of water resources and would address: (a) preparation, financial design and mechanisms, appraisal, and implementation support of water resources management schemes; (b) development and implementation of innovative actions aimed at improving the efficiency and economic valuation of water use in irrigated agriculture, water supply and sanitation, industrial use, including water reuse; and (c) the design and introduction of strategies and instruments that contribute to innovative financing mechanisms in the water sector. The amount of funding to implement all of the bottom-up actions would be large and would require mobilizing financing from different sources including international, national, state, municipal and private. PROMMA II would include the establishment of a fund to stimulate/leverage investments in these bottom-up actions. The process of preparing the projects would be carried out with the direct and constant participation of water users and other stakeholders under the leadership of local authorities, who would assume the responsibility for their implementation, with the participation and assistance of the CNA general subdirectorates, and regional and state management units. The projects would be demonstration in character, with the objective of learning from the experiences and dissemination of the acquired knowledge in other parts of the country.

The third component would support institutional development and project management support at the central, regional, state and local levels, and specialized training related to project implementation in areas such as integrated water resources management, project management, and communication and awareness building. This component would support programs in communication, awareness building and responsibility taking of authorities, water users, and society in terms of the value and vulnerability of water resources and approaches for its sustainable integrated management and use.

4. Potential risks and mitigation

The National Water Commission (*Comisión Nacional de Agua – CNA*) historically has been a large hierarchical centralized institution. During the implementation of PROMMA there has been a strong push to regionalize and decentralize activities, which has been only partially successful. Early in the implementation of PROMMA CNA was reorganized to include 13 hydrographic regions whose borders are defined by hydrologic boundaries and not by

administrative (state lines) ones. The three biggest difficulties in fully implementing the regionalization and decentralization objectives has been: (a) lack of financing mechanisms at the regional and state levels; (b) lack of qualified personnel in the regional and state offices; and (c) a continuing central inertia. There is also a lack of coordinated integrated action at the local level of the different federal, state and local actors. PROMMA II would include an institutional strengthening and communication program and the installation of groups of contracted professionals at the different levels to support project implementation.

Successful implementation of the specific projects under the second component will require financing from other as yet unidentified sources. PROMMA II will support the design of financing approaches and will include funds for stimulating/leveraging investments.

It will be essential for PROMMA II success that CNA give high priority and allocate sufficient budget during the entire project implementation period.

5. Issues on which the team seeks guidance

To effectively implement sustainable WRM at the river basin and aquifer levels strong high-level understanding of the issues and political support are required. To what extent should we continue to work with CNA to try to address these issues and should we try to seek a high-level consensus on approaches? Should we try to involve other government and private entities at the national level and try to stimulate broad national consensus/support? To what extent should we try to stimulate the adoption of national policies related water valuation and opportunity cost issues particularly in consideration of politically sensitive low-value irrigated agricultural uses?

6. Proposed preparation schedule and resource estimate

Concept Review:	January 2004
Decision Meeting:	September 2004
Appraisal:	December 2004
Negotiations:	February 2005
Board:	April 2005
Signing:	July 2005
Effectiveness:	October 2005

Resource estimate requirements for preparation are \$300,000 BB and \$500,000 PHRD.

The Task Team has been preliminarily defined as follows: Douglas Olson (TTL), Lea Braslavsky (Procurement), Dan Boyce (Financial Management), Teresa Roncal (Operations), Miles Scott-Brown (Environment), Maria Elena Castro (Social), Marta Molares-Halberg (Legal), Regis Cunningham (Financial Officer), Cecilia Maria Balchun (Financial Analyst), and Gloria Leiva (Team Assistant).

MEXICO
Water Resources Management Project II

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PART II – RESPONSE TO REVIEWS

A - CONVENTION SECRETARIAT

EMAIL FROM SARA GRASLUND (GEF)

DATED: 7/2/2004

it was nice meeting you yesterday. This is from me and Andrea just to let you know that you will receive the review sheet on Tuesday (**review sheet not received**) and that we expect the concept to enter the pipeline after we receive it on Wednesday.

The main points for the revision would be:

1. background developed to describe environmental values as well as environmental status in the basin as a whole, including its coastal area. **Background has been improved as recommended. See pages 2-6.**
2. clarified/increased GPA justification (so that it is clear from the beginning of the concept) **Done throughout.**
3. short description of PROMMA II and GEF components/activities/outcomes, and justification for why GEF would fund those activities. - **PROMMA II PCN attached in Annex 1; GEF components, activities and outcomes explained in Section C2. See pages 8-11.**

COMMENTS FROM UNEP

REVIEW OF PROPOSED INTEGRATED WATER RESOURCES MANAGEMENT PROPOSAL FOR THE LERMA-CHAPALA-SANTIAGO RIVER BASIN (MEXICO)

This Concept Paper proposes that a GEF International Water project be prepared and supported for the Lerma-Chapala-Santiago River Basin of Mexico.

In general, UNEP welcomes the idea. UNEP especially welcomes the concept as UNEP (1) had already initiated work, through the Organization of American States (OAS), with the Secretariat/Ministry of Environment and Natural Resources (SEMARNAT), and (2) had presented the idea as part of its pipeline to the 18 May 2004 IWTF without any reaction from GEF Sec or the World Bank. We note that the Mexican Water Agency (CNA or Conagua) of SEMARNAT is selected as the Executing Agency for this World Bank initiative.

Although the actual intent of this initiative, as outlined in the current version of the Concept Paper, would benefit from some clarification (see below comments), UNEP suggests that both UNEP-OAS and the World Bank collaborate in the Lerma-Chapala-Santiago River Basin, with the World Bank dealing with sanitation matters and UNEP helping Mexico to advance its environmentally sound management of the basin and its coastal zone through the formulation of an Environmental Strategic Action Programme (SAP). This latter component would build on the existing Water Master Plan, and empower the newly revised Water Law and agreement between the five riparian States in the recovery of the Basin.

The following comments are presented to benefit the present Concept Paper.

Overall comments

UNEP is concerned that the project, as currently envisioned, does not meet the GEF International Waters criteria, which are designed to permit single country projects in areas of global significance. As you are aware, UNEP is currently executing a project in the Pantanal of Brasil under Operational Program 9 (OP9). Arguably, the Lerma-Chapala-Santiago River Basin is not of similar stature to this ecosystem, which is documented as the world's largest wetland, containing numerous endemic species, and at risk from human activities in its drainage basin.

Likewise, we are concerned that the Lerma-Chapala-Santiago River Basin may not fulfill the requirements for a case study within the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities. To our knowledge, this Basin has not previously been identified with the assessments currently ongoing and supported in part by the GEF of this Protocol. As you also are aware, UNEP is currently completing work on the Sao Francisco River Basin project in Brasil, in which the coastal zone and nearshore areas of the South West Atlantic Large Marine Ecosystem was fully integrated into the project right from the earliest days of project development. To this end, the connection between the Lerma-Chapala-Santiago River Basin and the Pacific Ocean is not well developed in this Concept Paper, and does not appear to be integrated into the proposal.

Additional information to Sections A and C1 to address OP10 and GPA relevance. The global benefits are an international demonstration of innovative improvements in IWRM in the basin and improvements in the coastal and marine environment, and the demonstration-dissemination-replication regionally and nationwide of compliance with the GPA.

Section A would benefit from quantitative information with respect to the definition of issues at stake for the Basin as well as their global significance. The Objective statement needs to be further clarified as the value added of having the GEF involved in such project is not clearly stated. Indeed, in its current form, it is rather difficult to grasp what the project will do and how incremental the proposed activities are in

relation to PROMMA. The achievements of PROMMA I and the objectives of PROMMA II should be further defined outlining linkages to, and complementarities with, the proposed GEF funded activities.

Additional information has been added to Section C2 to clarify the proposed GEF activities and their incrementality in regard to PROMMA II.

The Concept Paper cover sheet refers to April 2006 as the estimated starting date when WP entry is shown as May 2006. Consequently, the proposal would benefit from some clarification with respect to the intended project cycle. Is there a PDF-B phase prior to the envisaged project?

A PDF-B preparation phase is planned to begin in September 2004.

The outlined co-financing of US\$180M is comprised of the PROMMA II loan (US\$100M), which is anticipated to be approved in April 2006, and US\$80M from Mexico. What is the envisaged course of action should the proposed PROMMA II loan not be accepted by Mexico. Not only the proposed co-financing but also the intended activities seem to be closely tied to the existence of such loan.

The GEF Project and PROMMA II are highly linked. PROMMA II preparation has been requested by Mexico and is scheduled for early FY06 Bank Board approval. If the Mexicans change their minds or the Board does not approve PROMMA II, then the GEF Project would need to be restructured or cancelled.

Specific Comments:

In addition, we have a number of specific concerns:

- In the third paragraph on page 2, line 17—The word “turbulence” should be “turbidity.” However, research in South Africa would suggest that, rather than limiting aquatic productivity, turbidity compresses production within the euphotic zone to a much narrower band of surface water than would be the case in a comparable clear water body [see R.C. Hart & B.R. Allanson, *Limnological Criteria for Management of Water Quality in the Southern Hemisphere*, South African National Scientific Programmes Report No. 93, 1984, as cited in S.-O. Ryding & W. Rast, *The Control of Eutrophication of Lakes and Reservoirs*, Unesco Man and the Biosphere Series Volume 1, 1989].

In line 21, *lirio acuatico* should be translated as water hyacinth, the more commonly known name of the plant.

- In the first paragraph of page 4, treatment capacities are stated variously as $l\ s^{-1}$ and m^3s^{-1} , which values should be standardized. The extent of implementation of the phase I project (PROMMA I), completed in December 1994, should be indicated; the comment toward the end of the paragraph that reports 1997 data does not allow the reviewer to determine the success of the phase I project, but rather confuses the issue by reporting partial implementation of both Phase I and phase II (PROMMA II) projects. In any event, neither project seems to have achieved complete implementation as the 45 plants reported in 1997 represent three fewer plants than were proposed to have been constructed by the end of 1994. These results should be elaborated.
- In the second paragraph on page 4, line 4—The term “sanitary conditions” should probably be “sanitation” as rural dwellings may lack sanitary conditions but towns generally are not considered to be unsanitary.
- In paragraph two on page 5, each of the three proposed components are described as including the same elements—“Participatory” management, for example, is part of Component 1 and Component 2 (lines 9 and 17); “strengthening existing water user organizations” is part of Component 1 and Component 3 (lines 10 and 27).

- In paragraph two on page 5, lines 12 and 13—If there are five demonstration sites, “at least 3 of which would be within the Lerma-Chapala-Santiago River Basin,” where are the others? If they are outside of this basin, then the argument that this is a basin of global importance cannot be true and the project will not fit the requirements of OP 10.
- In paragraph two on page 5, it should be noted that “remote sensing technologies” cannot be used to “achieve improvements in water productivity...”—Remote sensing technologies can be used to identify areas of water production and areas of water deficit in a graphical format that allow other measures, such as regulatory requirements, interbasin transfers, and water use charges, to be used to manage the available resources in a sustainable manner.
- In paragraph three on page 5, there is a major problem with numbering of activities, points (b) and (c) being duplicated. More seriously, however, activity (a) duplicates efforts currently being funded through the GEF International Waters portfolio that is examining lessons learned on the global scale. We are also concerned that the first activity (c) and the second activity (b) will have little lasting value except to the individuals involved in the study tours. It would be more profitable to develop skills within the Basin, or at least within the country, that will remain in the country, and to support these through an ongoing process of “twinning” institutions, than to finance a few study tours.
- In paragraph two on page 6, we are not aware that GEF support can be “retroactive.”
- In paragraphs one and two on page 7 is the first mention of the Lerma-Chapala-Santiago River Basin as an element of the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, and the first explicit recognition that the Lerma-Chapala-Santiago River Basin is not an international (multi-country) river system; however, in paragraph two, the citation to paragraph 10.5 of OP 10 clearly indicates that the project should “play a catalytic role in ... international waters” [emphasis added], suggesting that this proposal is not a good “fit” within OP 10.
- In paragraph two on page 7, although usually loans are considered as co-financing to GEF projects, it is stated that the “proposed project would significantly enhance and co-finance PROMMA II...” when the cover page states that the co-financing to this project is envisaged to come from PROMMA II (US\$100M). This should be clarified.
- In paragraph three on page 7, the assessment of sustainability is not balanced by an assessment of risk. This assessment should perhaps back reference the experience(s) summarized in paragraph one on page 4, which indicates that there is some element of risk based on previous experiences in the Lerma-Chapala subbasin.
- In paragraph one on page 9, we wonder in what capacity WMO is listed as a collaborating agency in the proposed project? Perhaps this list of potential partners should refer to the UN agencies generally, subject to further specific delineation during the project phase or during the project preparation phase, if one is to be proposed. Further, SEMARNAT, the parent institution of the CNA is not included amongst the envisaged partners.

In paragraph two on page 9, the phrase “if appropriate” is not appropriate and should be deleted.

In paragraph three on page 9, the execution arrangement is not very clear and a small organigram would help visualize the intended execution arrangements.

In closing, it seems that this initiative, in its current, form does not appear to be a good “fit” with the GEF project criteria and operation programs within the International Waters portfolio. While we have no doubt

that the proposal is worthwhile and should be supported once refined, currently the use of GEF International Waters funding does not seem warranted or appropriate to these efforts. Hence, UNEP is, hereby, offering its collaboration to expand its focus and make this proposal a joint environmental management project, consistent with the GEF IW vision either under OP9 or 10 in which UNEP-OAS has demonstrated extensive experience throughout Latin America and the Caribbean.

Collaboration with UNEP/OAS will be explored during preparation for the PDF-B grant.