



## Global Environment Facility

**Mohamed T. El-Ashry**  
Chief Executive Officer  
and Chairman

1818 H Street, NW  
Washington, DC 20433 USA  
Tel: 202.473.3702  
Fax: 202.527.3240/3245  
Email: melashry@worldbank.org

April 30, 2001

Dear Council Member:

UNEP, as the Implementing Agency for the project, *Regional (Argentina, Bolivia): Implementation of the Strategic Action Programme for the Bermejo River Binational Basin*, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with UNEP procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by the Council in November 2000 and the proposed project remains consistent with the Instrument and GEF Policies and Procedures. The attached explanation prepared by UNEP satisfactorily details how Council's Comments and those of the STAP reviewer have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at [www.gefweb.org](http://www.gefweb.org). If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

Cc: Alternates, Implementing Agencies, STAP

UNITED NATIONS ENVIRONMENT PROGRAMME

PROJECT DOCUMENT

SECTION 1 - PROJECT IDENTIFICATION

- 1.1 **Title of Sub-Programme:** Sub-programme 2: Environmental Assessment and Early Warning  
1.2 **Title of Project:** **Argentina/Bolivia - Implementation of the Strategic Action Program for the Bermejo River Binational Basin**  
1.3 **Project Number:** GF/1010-01-  
1.4 **Geographical Scope:** Latin America and the Caribbean (LAC)  
1.5 **Implementing Organization:** General Secretariat of the Organization of the American States (GS/OAS)  
1.6 **Duration of the Project:** Four and a half years  
**Commencing:** May 2001  
**Completion:** October 2005  
1.7 **Cost of Project:** (Expressed in US \$)

	US\$	%
Cost to the Environment Fund (in kind) <sup>1</sup> :	150,000	0.5
Cost to Trust Fund (GEF) <sup>2</sup> :	11,040,000	56
Cost to Counterpart Contribution (countries) <sup>3</sup> :	8,430,000	43
Cost to the Implementing Organization (in kind) <sup>4</sup> :	150,000	0.5
<b>Total Cost of the Project:</b>	<b>19,770,000</b>	<b>100</b>

**Signatures:**

For the General Secretariat of  
the Organization of the American  
States (GS/OAS):

For the Environment Fund of UNEP

\_\_\_\_\_  
César Gaviria  
Secretary General

\_\_\_\_\_  
Edmundo Ortega  
Chief, Budget and Fund Management Unit,  
UNON

Date: \_\_\_\_\_

Date: \_\_\_\_\_

<sup>1</sup> UNEP's contribution is provided under project FP/1000-00-01 as institutional support to this project covering staff time, and communication costs.

<sup>2</sup> GEF funds cover; (1) US\$ 10,400,000 for project per se, and (2) US\$640,000 of project support costs for the GS/OAS.

<sup>3</sup> Funds not administered by UNEP corresponding to the contribution of both Governments of Argentina and Bolivia.

<sup>4</sup> Funds not administered by UNEP corresponding to GS/OAS institutional support to this project.

## Box 1: Identifiers of project brief as approved by the GEF

<b>Identifiers</b>	
Project Number:	Project number not yet assigned (GF/8400-00-#)
Project Name:	<b>Argentina/Bolivia - Implementation of the Strategic Action Program for the Bermejo River Binational Basin</b>
Project Duration:	4.5 years
Implementing Agency:	UNEP
Executing Agency:	Binational Commission for the Development of the Upper Bermejo and Grande de Tarija Rivers Basins
	GS/OAS
	Inter-American Development Bank
Requesting Country:	Argentina and Bolivia
Country eligibility:	Eligible under paragraph 9(b) of the Instrument.
Focal areas:	International waters with relevance to the cross-cutting area of Land Degradation
GEF Programming Framework:	OP 9 Integrated Land-Water Multiple Focal Area
<b>Summary</b>	
<p>This project catalyzes the implementation of the Strategic Action Program for the Bermejo River Binational Basin. The Project will implement specific strategic activities, identified in the GEF-financed strategic action program (SAP), that address the principal root causes of soil degradation as set forth in the transboundary diagnostic analysis (TDA) and, in doing so, will provide the necessary institutional, legal, and informational basis to enhance and restore the environmental functioning of the system, and provide protection to endemic species within the five component ecosystems—montane, humid forest, arid Chaco/savannah, sub-humid Chaco, and humid Chaco. These actions, with incremental costs, will complement Basin-scale interventions by the Binational Commission, and the governments of Argentina and Bolivia, financed in part from national and provincial/prefectural sources and by international loan funding, many of which address expected baseline activities. Strengthening of Basin institutions, building of agency and organizational capacity, and integration of environmental concerns into economic development activities on a sustainable basis, and the promotion of the public awareness and participation are key elements of this project.</p>	
<b>Costs and Financing (Million US \$)</b>	
<b>GEF:</b>	
Project	US \$ 10.40 million
Administrative Fees	US \$ 0.64 million
PDF	US \$ 0
<b>Subtotal GEF</b>	<b>US \$ 11.04 million</b>
<b>Co-financing:</b>	
UNEP	US \$ 0.15 million (in kind)
GS/OAS	US \$ 0.15 million (in kind)
Governments	US \$ 8.43 million
<b>Subtotal</b>	<b>US \$ 8.73 million</b>
<b>Total Project Costs:</b>	<b>US \$ 19.77 million</b>
<b>Associated Financing to Strategic Actions</b>	
Inter-American Development Bank	US \$ 160.75 million
The World Bank	US \$ 159.52 million
Other	US \$ 23.18 million
Government	US\$ 187.29 million
<b>Total Associated Financing:</b>	<b>US \$ 530.74 million</b>
<b>OPERATIONAL FOCAL POINT ENDORSEMENT</b>	
<p><b>Argentina: Name:</b> Embajadora Elsa Kelly, <b>Title:</b> Directora de Asuntos Medioambientales, <b>Organization:</b> Ministerio de Relaciones Exteriores, Comercio Internacional y Culto, <b>Date:</b> 28/06/00</p> <p><b>Bolivia: Name:</b> Embajador Jorge Soruco Villanueva, <b>Title:</b> Primer Delegado ante la Commission Binacional para el Desarrollo de la Alta Cuenca del Rio Bermejo y Rio Grande de Tarija, <b>Vice Ministro de Política Exterior,</b> <b>Organization:</b> Commission Binacional, <b>Date:</b> 21/06/00</p>	
<b>IA Contact:</b>	
Mr. Ahmed Djoghlaflaf, Executive Co-ordinator, UNEP/GEF Co-ordination Office, UNEP, Nairobi, Tel: 254 2 624153; Fax: 254 2 520825; Email: ahmed.djoghlaflaf@unep.org.	



## **SECTION 2 - BACKGROUND AND PROJECT CONTRIBUTION TO OVERALL SUB-PROGRAMME IMPLEMENTATION**

### **BACKGROUND AND CONTEXT**

1. The development of a Strategic Action Program (SAP) for the Binational Basin of the Bermejo River (hereinafter the BRBB) was the outcome of an highly transparent public interaction process that has identified community-based mechanisms for the protection of the water resources of this Plata Basin tributary river system.<sup>5</sup> The process of formulating the SAP involved the active participation and input of over 750 persons representing governmental, non-governmental, civic, and community interests throughout the Basin. As a result of this process, an expectancy has been created among the riparian communities of greater citizen involvement in the management of the land and water resources of the Basin. While this expectancy differs in quality between the Bolivian portions of the Basin—where public participation has been an element of governmental planning for some time, under the law for popular participation—and the Argentine portions, the basic concept is one of public involvement in the sustainable use and protection of the Basin's land and water resources through a process of dialogue between decision-makers and local communities. This project is proposed as a means of creating the necessary institutional, legal, and informational bases to implement this concept.

2. The BRBB extends over some 123,000 km<sup>2</sup>, originating in the Andes Mountains of northwestern Argentina and southern Bolivia. The river, which flows some 1,300 km, crosses the Chaco Plains, forming an important ecological corridor linking the Andean ecosystem with the Atlantic ecosystem. Because the Bermejo River is the only major river spanning the Chaco, the river system contributes the largest mass of Andean sediment to the Plata River system. The origin and behavior of the sediment has the potential to dramatically condition water uses in the Bermejo and Plata river systems, not only with respect to river-based and river-dependent activities but also with respect to the structure and dynamics of the riverine ecosystems.

3. Combining the foregoing demographic and geographic imperatives implies that community-level interventions to enhance the management of the land surface can contribute to the maintenance of the structure and function of the waterway, whilst preserving the economic benefits derived from the watercourse for local communities. The accuracy of this statement was borne out through the success of localized, community-level demonstration projects conducted during the period of SAP formulation. These projects reinforced local ownership and local leadership roles, while facilitating changes in historic and traditional land-use practices from unsustainable to sustainable practices. In facilitating such changes, the project encouraged the integration of governmental, non-governmental, and private sector interests for the economic benefit of entire community groups and lessened their environmental impacts on the river and its watershed.

4. A hallmark of the Global Environment Facility (GEF), under whose auspices the SAP was formulated, is the emphasis on the potential of projects for replication. The GEF, through Operational Program # 9—the International Waters Integrated Land-Water Multiple Focal Area Project component (paragraph 9.21 of the Operational Program)—encourages the conduct of projects that successfully integrate divergent socio-economic interests in an environmentally sustainable manner. For this reason, the completion of the diagnostic and strategic programming phase of the BRBB project marks the starting point in the sustainable management of the BRBB. This initial phase identified, implemented, and tested sustainable land management practices on the local level, and created a basin-wide expectation for greater civic involvement in resource management and economic development issues. This next phase of GEF programming in the BRBB must identify, develop, and implement mechanisms for the replication of those practices and measures that have been demonstrated to be successful throughout the BRBB and throughout the Plata River Basin. In so doing, the BRBB project can continue to refine and demonstrate the means for, and benefits of, country ownership and community participation in river basin management.<sup>6</sup> This integrated

---

<sup>5</sup> Comisión Binacional para el Desarrollo de la Alta Cuenca del Río Bermejo y el Río Grande de Tarija, Programa de las Naciones Unidas para el Medio Ambiente, Organización de los Estados Americanos, y Fondo para el Medio Ambiente Mundial (1999) *Programa Estratégico de Acción para la Cuenca del Río Bermejo, Volumen I*. Programa Estratégico de Acción para la Cuenca del Río Bermejo, Buenos Aires-Tarija, Septiembre 1999.

<sup>6</sup> See the GEF 1999 Project Implementation Review, International Waters Portfolio Overview and Issues Paper,

approach to river basin management is wholly consistent with UNEP's EMINWA process.<sup>7</sup>

**5. National Programming Context.** The governments of Argentina and Bolivia initiated the BRBB project in 1997 through the Binational Commission for the Development of the Upper Bermejo and Grande de Tarija Rivers Basins (Binational Commission).<sup>8</sup> With the support of the GEF, UNEP, and GS/OAS, the Binational Commission, in cooperation with the National Secretariat of Environment of Bolivia and the Secretariat of Natural Resources and Human Environment of Argentina,<sup>9</sup> and in consultation with the relevant prefectural and provincial governments, conducted the Transboundary Diagnostic Analysis (TDA) that led to the preparation of the SAP. Using an environmental zoning approach, the Basin countries identified general and site-specific needs and priorities for the conservation, rehabilitation, and preservation of degraded lands; initiated the creation of a shared geographic information system to facilitate dissemination of available physical, biological, social, legal, and economic information; and field-tested specific management mechanisms designed to prevent negative impacts in urban and rural areas, especially as related to land degradation insofar as it affects on the water resources in the region.

**6.** Six priority problems for ecosystem-level conservation, rehabilitation, and preservation were identified in the TDA:<sup>10</sup> (1) degradation of soils and intense erosion and desertification processes; (2) scarcity of water resources and limitations on their management; (3) degradation of water quality; (4) habitat and biodiversity losses and deterioration of terrestrial and aquatic biotic resources; (5) losses due to the occurrence of flood-related and other natural disasters; and (6) deterioration of the quality of life of the population living in the Basin and loss of cultural resources. These problems are endemic throughout the Basin, and most are both natural and anthropogenic in origin.

**7.** The analysis of their basic and direct causes was the subject of an extensive public consultation process, the results of which defined the strategic actions included in the SAP. As envisioned by Basin stakeholders, the SAP was prepared as a long-term action plan, designed not only to address the root causes of the critical environmental degradation affecting the basin, but also to promote the sustainable development of Basin communities. It is composed of four sets of priority actions: (1) prevention of environmental degradation, and rehabilitation and protection of degraded environments; (2) sustainable development of natural resources in the Basin; (3) institutional strengthening and implementation of an effective legal and institutional framework for integrated water resources planning and management within the Basin; and (4) implementation of a program of consultation, public awareness and participation for environmental protection and management, and replication of project activities in other regions of the Plata Basin. A SAP summary is presented in Annex X.

**8.** From each of the four strategic areas of the SAP, a restricted number of priority actions, with particular emphasis on erosion and sedimentation issues, have been selected to address the priority transboundary environmental problems affecting the Basin. These actions are considered of immediate priority, and include the execution of specific preventive and remedial activities, the consolidation of participatory mechanisms, and the provision of the necessary legal and institutional framework for the entire program. Each of these activities is being described in greater detail in Annex IX and is also summarized in Table 1 hereafter.

## **2.2 Project Contribution to overall Sub-Programme implementation:**

**9. GEF Programming Context.** Both countries are eligible for GEF assistance under paragraph 9b of the Instrument for the Restructured GEF. The GEF, through Operational Program # 9—the International Waters

---

published by the GEF Secretariat in November 1999.

<sup>7</sup> The United Nations Environment Programme's (UNEP) Environmentally Sound Management of Inland Waters (EMINWA) integrated watershed management planning process.

<sup>8</sup> The implementation of the BRBB project was preceded by a Project Development period that was initiated during 1995.

<sup>9</sup> With the recent installation of a new constitutional government in Argentina, on 10/12/99, this agency has been modified and its powers and functions reassigned within the new ministerial structure.

<sup>10</sup> Comisión Binacional para el Desarrollo de la Alta Cuenca del Río Bermejo y el Río Grande de Tarija, Programa de las Naciones Unidas para el Medio Ambiente, Organización de los Estados Americanos, y Fondo para el Medio Ambiente Mundial (1999) *Diagnóstico Ambiental Transfronterizo de la Cuenca del Río Bermejo*. Programa Estratégico de Acción para la Cuenca del Río Bermejo, Buenos Aires-Tarija, enero 2000.

Integrated Land-Water Multiple Focal Area Project component (paragraph 9.21 of the Operational Program)—encourages the conduct of projects that successfully integrate divergent socio-economic interests in an environmentally sustainable manner. For this reason, the completion of the diagnostic and strategic programming phase of the BRBB project marks the starting point in the sustainable management of the BRBB.

**10. UNEP programming Context.** The proposed actions are consistent with the UNEP Environmentally Sound Management of Inland Waters (EMINWA) integrated watershed management planning process and related, regional seas programme.

## **SECTION 3 - NEEDS AND RESULTS**

### **3.1 Needs:**

**11.** There is the need (1) to promote the sustainable development of the Río Bermejo Basin by implementing the Strategic Action Program for the Binational Río Bermejo Basin (SAP), and (2) to promote and reestablish environmental functioning of the system, by executing selected strategic actions that complement and facilitate the efforts of the Argentine and Bolivian governments and institutions in implementing the SAP.

### **3.2 Results:**

**12.** Key results will include:

- institutional development and strengthening;
- environmental prevention, protection, and rehabilitation;
- sustainable development of natural resources;
- public participation and awareness.

### **3.3 Risks and sustainability analysis:**

**13.** This project is designed to address priority environmental matters concerned with sustainable development, and the protection and preservation of the various ecosystems extant within the BRBB. To effect this, it is necessary to formulate a comprehensive program of coordinated actions by the governments of Argentina and Bolivia, the riparian provinces of Argentina (Jujuy, Salta, Chaco, and Formosa), and the riparian prefecture of Bolivia (Tarija). This program is set forth in the SAP for the BRBB. The principal risk facing development in the BRBB is that environmental considerations are not properly included in projects, programs, policies, and actions in such a way as to ensure sustainability. Serious undesirable environmental side effects, such as increased degradation of erosion-prone areas, damage to the underlying natural-resource base, flooding, and pollution of downstream ecosystems, including economic units of production, may result from this failure. Notwithstanding this, opportunities exist for the protection and rehabilitation of the BRBB by strategically introducing effective and adequate environmental management practices and procedures. These opportunities can be given effect by the adoption by the provincial and prefectural governments of complementary legislation consistent with the principles set forth in the SAP, and reinforced by the complementary program of information and education supported by schools, universities, NGOs, and private corporations. The implementation of comprehensive programs of environmental and land-use zoning at the regional and local levels is an initial step in this process. There is a risk that prefectural/provincial and local governments may fail to recognize the need for complementary legislation, and that such legislation, necessary to give effect to a comprehensive strategic action program, will not be adopted. The effect would be a failure to overcome parochialism among governmental units that would hinder the full accomplishment of the sustainable management of the system. Likewise, there is a risk that the complementary program of public participation, including participation by private corporate entities, will not fully develop due to inadequate local resources or staff. Even so, significant improvement in the maintenance of environmental quality and sustainable economic development currently is being, and can continue to be, achieved in the absence of a comprehensive management regime, which suggests that, in any event, the net outcome of conducting this project will be a positive influence on the Basin.

**14.** There is a further risk that, while the Binational Commission has adopted an active posture that will catalyze and encourage an effective cross-sectoral role for the Commission in the sustainable management of the river basin, lack of adequate levels of financial or human resources could curtail the potential for this posture to result in significant economic and environmental benefit in the Basin. Incremental GEF funding is intended to be catalytic in reversing the unsustainable development trends in this region by, inter alia, helping to popularize sustainable practices among the population, provide the institutional, legal and financial structures necessary for implementation of sustainable practices, and promote mechanisms for continued economic growth, with minimal negative environmental impacts, within the Basin.

**15.** Project activities (including the participation process) and their implementation are designed to achieve sustainability. Components have been proposed for the purposes of addressing the root causes and effects of degradation of water and natural resources in the Basin, and of reclaiming once-productive areas and keeping them productive. Such components relate directly to the information gathered during SAP formulation to structure appropriate and sustainable responses, both structural and non-structural within the Basin. The extension of demonstration projects, the feasibilities of which were identified as an outcome of SAP formulation, is predicated upon their sustainability, both from the ecological and economic point of view and from the point of view of further evaluating the impact of those practices. Wherever possible, the projects will develop opportunities for the establishment of financial incentives, private-sector investment, and cost recovery in environmental management (e.g., in reclamation of eroded lands, pastures and forests, rational management of natural forests, and exploitation of newly forested or newly irrigated areas), and result in actual, working examples of new or refined land-management actions necessary for the sustainable development of the watershed. Activities on this scale will highlight issues affecting the sustainable implementation of practices allowing refinements or modifications to be made prior to further large-scale use.

**16.** To minimize risk, the national and local governments have active, ongoing programs of environmental management and are seeking more effective ways to manage and conserve their natural-resource bases, including reviewing legal and administrative practices, operational procedures, and human-resource needs. Innovative approaches have been proposed by governmental agencies during the public participation process. Incremental financing provided through this GEF project is intended to allow more extensive implementation of these approaches as a means of determining their longer-term effectiveness and thereby catalyzing the more widespread adoption of innovative methods by communities and corporations throughout the Basin. Government support of these actions proposed to be implemented in part with GEF funding includes a financial commitment of almost US\$8.43 million over a period of four years, with additional funds proposed to be allocated to the implementation of specific demonstration projects under NGO-funded initiatives and international loan-financed programs, including investment programs totaling in excess of US\$530 million. These national counterpart contributions, composed of municipal, provincial and prefectural, federal, and international funds from domestic and loan sources, will help to minimize risks during project implementation, help to create support for the watershed-management process, and assist in the development of practicable approaches to environmental resource management in the Basin. In addition, other nationally and internationally funded investment projects in the areas of natural hazard management, wastewater, stormwater, and water quality management infrastructure are being considered. Resource development plans and programs being executed by various governmental units within the Basin, as of mid-1999, are tabulated in Annex VIII.

**17.** Furthermore, to ensure sustainability of the Project's results, both countries have taken steps to create an Inter-ministerial Committee, which will help mobilize support for the investments identified, and catalyze the translation of project findings and recommendations into policy, institutional, and legal reforms at the country level. The members of the Committee will be established by the respective governments and will include, among others, ministerial representatives from the areas of economy/finance, water resources, environment, health, sanitation, culture, and tourism, who will participate as observers in the meetings of the Regional Coordination Committee.



**SECTION 4 - OUTPUTS, ACTIVITIES, WORKPLAN AND  
TIMETABLE, BUDGET, FOLLOW-UP**

**4.1 Project activities and outputs:**

**RATIONALE AND OBJECTIVES**

18. Building upon the priority actions set forth in the SAP, the primary objective of this GEF International Waters project is to assist the governments of Argentina and Bolivia in addressing the root causes of the principal environmental problems affecting the Bermejo River Basin, with a focus on their main transboundary manifestations—namely, sediment erosion, transport, and deposition—and to promote the sustainable development of the BRBB. Activities for the control of land degradation due to agricultural activities, prevention of erosion, and sediment control—including the creation, restoration and protection of natural vegetated areas, conservation of aquatic and terrestrial habitat, and support to popular participation in the management of natural resources through improved access to information and enhancement of public awareness, control of water-borne contaminants, and related measures—have been selected in order to catalyze implementation of specific actions as recommended in the SAP. A key feature of this project will be the replication and extension, throughout the Bermejo and Plata basins, of the localized activities of the SAP formulation project that were determined to be feasible measures for the integration of the geographic and demographic aspects of watershed management within the BRBB. The set of actions programmed for this purpose is described in Annex IX, Activity 4.4.

**Table 1. List of Priority Actions for Addressing Transboundary Environmental Problems in the Binational Basin of the Bermejo River<sup>11</sup>**

STRATEGIES/ACTIVITIES	COSTS (US\$ millions)		Sub-ACTIVITIES
	Total	GEF	
<b>I. INSTITUTIONAL DEVELOPMENT</b>			
1. Development/strengthening of the institutional framework	1.91	1.10	<ul style="list-style-type: none"> <li>▪ Strengthening of the Binational Commission</li> <li>▪ Strengthening of COREBE</li> <li>▪ Strengthening of government and civil society orgs.</li> </ul>
2. Development of a holistic regional legislative, economic, and environmental framework	1.84	0.79	<ul style="list-style-type: none"> <li>▪ Harmonization of regional and jurisdictional legal frameworks</li> <li>▪ Environmental zoning for land-use regulation in selected areas</li> <li>▪ Economic instruments for sustainable water use</li> <li>▪ Incorporation of environmental and social costs in project evaluation</li> </ul>

<sup>11</sup> The set of actions listed focuses primarily on erosion and sediment control. Other environmental and developmental issues identified in the TDA which will benefit from implementation of proposed activities, include water-resource degradation; water scarcity and availability restrictions; and loss of biodiversity and biotic resources.

<b>II. ENVIRONMENTAL PROTECTION AND REHABILITATION</b>  1. Soil management and erosion control in critical areas	2.13	1.32	<ul style="list-style-type: none"> <li>▪ Sediment control in the Tolomosa River basin</li> <li>▪ Integral management of natural resources in the Santa Ana River basin</li> <li>▪ Integrated management of the Iruya River basin</li> <li>▪ Soil-loss prevention in the Huasamayo sub-basin</li> </ul>
2. Consolidating protected areas and protecting biodiversity	1.79	1.30	<ul style="list-style-type: none"> <li>▪ Ecotourism activities in piedmont transition forests</li> <li>▪ Carbon fixation in the Yungas</li> <li>▪ Implementation of the Baritú-Tariquía- Calilegua biological corridor</li> <li>▪ Management plan for Sama and Tariquía biological reserves</li> <li>▪ Evaluation of sub-Andean rangelands</li> <li>▪ Study and implementation of the Teuco National Park (Chaco region)</li> <li>▪ Biodiversity study</li> </ul>
3. Protection and restoration of water quality	0.33	0.20	<ul style="list-style-type: none"> <li>▪ Environmental clean-up of the Guadalquivir River (pilot-scale waste-water treatment plants in rural communities)</li> <li>▪ Assessment and design of water-pollution control strategies in the Bermejo Triangle</li> </ul>
<b>III. SUSTAINABLE DEVELOPMENT OF NATURAL RESOURCES</b>  1. Implementation of a planning framework for integrated water resource management and sustainable development	2.67	1.53	<ul style="list-style-type: none"> <li>▪ Regional integrated program for natural resource management, erosion and pollution control, and sustainable development in the Bermejo Basin</li> </ul>
2. Sustainable practices for rehabilitation of degraded areas in the Chaco and Yungas regions	2.40	0.85	<ul style="list-style-type: none"> <li>▪ Training and promotion of sustainable resource management techniques in the humid and subhumid Chaco</li> <li>▪ Diversification of production alternatives to reduce human pressure on natural forest resources in the Yungas region</li> </ul>
3. Community extension programs for sustainable production and natural- resource management	0.34	0.19	<ul style="list-style-type: none"> <li>▪ Survey, assessment, validation, and extension of traditional natural-resource management practices in representative areas of the Bermejo River basin</li> <li>▪ Promotion of sustainable production activities and natural-resource management in indigenous and native communities</li> </ul>
4. Sustainable agriculture and soil conservation practices along the San Jacinto project area	0.24	0.16	<ul style="list-style-type: none"> <li>• Pilot project for testing and dissemination of soil and water management techniques in irrigated farming along the San Jacinto water reservoir area (Upper Bermejo)</li> </ul>
5. Securing of financial resources for the Bermejo River Basin	0.35	0.30	<ul style="list-style-type: none"> <li>• Donor roundtable meeting for securing financial resources to support implementation of SAP activities and other complementary actions oriented to the sustainable development of the Bermejo River Basin</li> </ul>

<b>IV. PUBLIC AWARENESS, PARTICIPATION, AND REPLICATION OF PROJECT ACTIVITIES</b>			
1. Environmental education programs	1.17	0.51	<ul style="list-style-type: none"> <li>• Implementation of environmental awareness and training programs on sustainable resource use for different ecological regions of the Bermejo basin</li> </ul>
2. Public participation program	0.53	0.31	<ul style="list-style-type: none"> <li>▪ Information dissemination, consultation workshops, and establishment of suitable mechanisms for public participation in the Bermejo river basin</li> </ul>
3. Information system for the Bermejo River Basin	2.28	1.14	<ul style="list-style-type: none"> <li>• Access to information for public participation</li> <li>• Developing networks and articulation mechanisms</li> <li>▪ Creation and implementation of an environmental information and monitoring system</li> <li>▪ Definition and adoption of IW indicators</li> </ul>
4. Replication of project activities	0.85	0.70	<ul style="list-style-type: none"> <li>• Dissemination and replication of the Bermejo project into the broader context of the Plata Basin</li> </ul>
<b>TOTAL COSTS</b>	<b>18.83</b>	<b>10.4</b>	

19. This project proposal is being compiled at a time when the Bermejo River Binational Commission, the provinces of Jujuy, Salta, Chaco, and Formosa (in Argentina), and the governments of Argentina and Bolivia are implementing measures to integrate stakeholder participation and grassroots-level involvement into water resources management. Such measures have been in place in Bolivia for some time through an established law for popular participation. These measures provide opportunities for the creation, strengthening, and/or implementation of effective organizations, and of control and fiscal instruments, to mitigate and prevent land and water management practices that enhance soil erosion and sediment transport, degrade water quality, modify hydrological and hydraulic characteristics of the Basin, and/or adversely affect the biological integrity of the Chaco and BRBB. In addition, the SAP provides a relevant and appropriate regional planning context for site-specific interventions to be designed and catalyzed under the activities set forth in this proposal. The net result of these actions will be the initiation and development of a program for the environmentally sustainable development of the land and water resources of the BRBB, including those of the Chaco plains. The strengthening of the Binational Commission, and the inter-ministerial articulation of governmental agencies involved in water resources and environmental management within and among the various jurisdictions, are anticipated to be a specific result of these actions. Thus, the sustainability of SAP implementation after GEF intervention and the incorporation of project findings into the institutional and legal frameworks will be ensured.

**20. Complementary Interventions.** Activities proposed for implementation during the project period would be conducted in a parallel, but active relationship, with numerous ongoing and proposed planning and development activities in the Plata River Basin. Some of these activities are within the various GEF focal areas of interest. In the International Waters focal area, other ongoing GEF-financed projects are being conducted within the Plata Basin, including the Upper Paraguay River and Pantanal project in Brazil, the Maritime Front of the Plata River project in Argentina-Uruguay, and several others under consideration. Among these latter projects, a medium-sized project has been proposed to create an information system for the Upper Paraguay River Basin (SIAP), providing opportunities for regional cooperation at basin level. In addition, infrastructural investments for water supply, wastewater, storm and flood water, and water quality management are being financed or considered for financing from national and international sources within the BRBB.

21. These projects are being conducted, or are proposed to be conducted, with funds provided by the World Bank, the Inter-American Development Bank, FONPLATA, and CAF, and through bilateral cooperation

agreements. Integration of these activities within the regional planning context created by the BRBB SAP will provide opportunities for further involvement and coordination of investments within the framework of this project. Within the Plata River Basin, all of these projects, including the proposed activities within the BRBB, will contribute to the knowledge base for the sustainable management and development of natural resources of the Plata River Basin, and provide complementary information on appropriate environmental management measures for sustainable economic development throughout the multiple ecosystems that comprise the Plata River system. In an effort to better integrate these efforts, a comprehensive framework plan for the management of the Plata River Basin is currently being prepared by the Basin countries.

## **PROJECT COMPONENTS AND EXPECTED RESULTS**

**22.** The proposed project activities are designed to catalyze the implementation of actions necessary to address the root causes of priority transboundary problems identified during SAP formulation, with a focus on soil degradation and sediment transport. These problems are shown, in summary form, in Annex V. The project activities are designed to implement an integrated program of river basin management in the BRBB, and are concentrated in four principal components as set forth below. The schedule of expenditure of GEF funds is presented in Table 1.3 of the incremental cost analysis presented in Annex A. Detailed information on each component is presented in Annex IX.

### **COMPONENT I: INSTITUTIONAL DEVELOPMENT AND STRENGTHENING FOR INTEGRATED WATER RESOURCES PLANNING AND MANAGEMENT.**

**23.** Component I is designed to provide a broadly based, participatory institutional framework, likewise developing and strengthening the legal basis underlying the regulation, planning, and environmental and social evaluation, environmental zoning, and economic and financial arrangements that are indispensable for effectively implementing sustainable measures for prevention, restoration, planning, and development of the natural resources identified in the SAP. The two clusters of activities that make up this component are aimed explicitly at creating an effective and integrated organizational base that will involve both the public and private sectors in implementing a multisectoral and holistic approach to the environmental management and economic development of the basin, as proposed in Chapter 18 of Agenda 21. This framework is fundamental to support the extension and subsequent implementation of the specific strategic activities in the basin that will address the basic causes of transboundary environmental problems—namely, land degradation and sediment transport—that form the framework for the other components of the project. Activities undertaken within this component specifically address weaknesses within the current organizational base, identified during SAP formulation, that hinder the effective, holistic management of the water resources of the BRBB. This will ensure institutional capacity to implement the new laws, regulations, and procedures necessary for the longer-term success of the watershed management measures by helping to increase participation in decision-making within the Basin, and enhance and underpin the ability of the Binational Commission not only to carry out its current mandate but also to assume additional responsibilities relating to information sharing and coordination among stakeholders. The two clusters of activities to be conducted within the component will include:

- Development and strengthening of the institutional framework designed to (i) to deepen and broaden activities initiated during the SAP formulation stage with respect to implementation of the project and the coordination role of the Binational Commission, (ii) to promote regional coordination and programming, and (iii) to address weaknesses in the complex institutional framework that currently impede a comprehensive vision of the basin and the integrated and sustainable management of its resources. These activities are also intended to develop and broaden the participatory framework, including mechanisms for specific participation by provincial governments, the Prefecture and municipalities of Tarija, and to strengthen the capacities of the institutions that represent them. This will be done through the following specific activities; 1) institutional development and strengthening of the Binational Commission and regional entities within the two countries (COREBE and OTN), and 2) the institutional strengthening and capacity building of local governmental and civil society organizations.
- Development of a holistic regional legislative, economic and environmental framework. By designing and implementing legal and financial instruments and harmonizing standards for water quality management and land use in the basin, these activities will help establish a framework in which dialogue between the public and the agencies responsible for implementing integrated management programs for the basin

can be translated into a comprehensive legislative program aimed at strengthening their legal and political foundations. It includes the following specific actions: 1) Development and harmonization of regional and jurisdictional political and legal frameworks; 2) Environmental zoning for land-use regulation in selected areas; 3) Development of economic instruments for sustainable water use; and 4) Incorporation of environmental and social costs into project evaluation.

**24.** The results of this component will be a documented framework for addressing transboundary problems inherent in the management of the Bermejo River basin, including the articulation of formal and informal mechanisms for participation by government units at the provincial and prefecture level in determining and implementing an integrated water resources management program (IWRMP). This will take the form of fully operational coordination and programming mechanisms within the Binational Commission, with participation by provincial governments and the prefecture of Tarija. These mechanisms will analyze and integrate agreed strategic guidelines for a regional institutional framework into an appropriate and effective binational, inter-jurisdictional entity for the basin, under which national-, provincial/prefectural- and municipal-level institutions can be strengthened in terms of their capacities and abilities to manage natural resources on a sustainable basis. This component will also provide specific support, through the regional entities of the two countries (COREBE and OTN), to provincial entities, the prefecture and municipalities of Tarija, academic organizations, NGOs, and governmental institutions involved in implementing the SAP, in order to develop their institutional, technical, and administrative bases. In addition, it will make substantive progress in the introduction of environmental zoning and land-use planning as management and planning tools, in the form of strategic methodological guidelines validated at the regional level, and concrete environmental management actions at the local level, in particularly critical areas of the Basin. The results of this component will help to optimize policies, practices, and programs for preventing land degradation and sediment transport, and managing water resources, thereby creating the economic and legal foundations for the sustainable development of the basin.

**25.** The output of this activity will include a documented context for establishing a regional regulatory framework for the use and protection of shared water resources; the determination of water-use charges, including a restructuring of fiscal, financial and legal mechanisms for managing the quantity and quality of water within the basin; and proposed legislation to put this framework into effect. A further explicit output of this activity will be legislative proposals for implementing the IWRMP at all levels of government and civil society as well as developed institutional, technical, and administrative bases.

**26.** It is anticipated that the execution of these activities will be undertaken by the Binational Commission, relevant governmental agencies at the national and prefectural/provincial levels, universities, and NGOs. The coordination and supervision of the activities will be ensured by the Technical Coordinators at the Binational Commission. Component I is anticipated to be initiated during the first quarter of the project period and continue throughout the project period. GEF: US\$1.89 millions; co-funding: US\$1.86 millions; total: US\$3.75 millions.

## **COMPONENT II: ENVIRONMENTAL PROTECTION AND REHABILITATION**

**27.** Component II is designed to extend the implementation of feasible measures of basin management identified during formulation of the SAP. Within the regional coordination and planning framework progressively provided by the institutional initiatives to be undertaken as part of Component I, the activities programmed for this component will deal with specific transboundary aspects identified in the TDA. In particular, planned actions focus on soil management and sediment-transport control, either by means of feasible specific prevention and control measures or by preserving the natural landscape in critical, erosion-prone areas through the consolidation of protected areas. Complementary basic natural resource studies and the maintenance of the quality of the Basin's water resources are parts of this Component. The cluster of activities to be conducted under this component include:

- Extension and implementation of feasible measures for erosion control in the Upper Rio Basin identified and proved effective during the SAP formulation phase, to promote greater use of soil management practices that minimize degradation and the risk of destabilization
- Establishment of buffer zones and environmental corridors, and sponsorship of basic studies on natural resources, including pilot demonstration projects that promote effective ways of restoring degraded

environments, preserving environments adjacent to nature conservation areas, and protecting biodiversity, while at the same time promoting the sustainable economic development of local communities

- Protection and restoration of the quality of water in those critical stretches identified during SAP formulation, including implementation of the cleanup of the Guadalquivir River, and the initiation of planning studies of watercourses in the vicinity of the city of Bermejo, another critical point of pollution of the water resources in the Upper Basin.

**28.** The results of these efforts will encourage broader application of the feasible and proven management practices and thereby contribute to sustainable land use (essentially for farming) and the conservation of areas that, although not yet significantly altered, are at risk from land degradation. A key feature of this component will include the mitigation of erosion in critical zones of the basin.

**29.** The output of this component will include the application of recommended soil conservation and erosion control measures to limit the loss of soil in the upper basin. By demonstrating the utility of a community-based approach to the management, this component will catalyze the further adoption of community-based management techniques to restore degraded environments.

**30.** It is anticipated that the execution of these activities will be undertaken by the relevant governmental agencies at the national, prefectural/provincial, and municipal levels; research institutes; universities; and NGOs in the region. The coordination and supervision will be ensured by the Technical Coordinators at the Binational Commission. Component II is anticipated to be initiated during the second quarter of the project period. GEF: US\$2.82 million; co-funding: US\$1.43 million; total: US\$4.25 million.

**31.** Additional funding for the structural development aspects of this component is indicated under existing Inter-American Development Bank and World Bank programs. While these programs are independent of the GEF-financed initiatives, the Technical Coordinators at the Binational Commission will endeavor to integrate and coordinate their activities with these development activities to the fullest extent possible and in such manner as may be determined under Component I. Their actions would also involve the participation of, and coordination with, private sector stakeholders as provided under Components III and IV below.

### **COMPONENT III: SUSTAINABLE DEVELOPMENT OF NATURAL RESOURCES**

**32.** Component III will encourage the implementation of alternative production modes that will be environmentally friendly or will at least minimize environmental degradation, with focus on land degradation and soil erosion, while at the same time providing greater economic opportunities for the local population, in a context of integrated management of water resources and sustainable development planning for the basin as a whole. The initial action under this component will be to formulate an Integrated Management and Sustainable Development Program for the Basin, which will draw upon, and at the same time establish, a regional framework for execution of the remaining activities. The five activities to be conducted under this component are the following:

- Formulation and development of an Integrated Water Resource Management and Sustainable Development Plan (IWRMP) —comprising information gathering and dissemination, studies, analyses, sharing of experiences, demonstrations, and evaluations conducted to date or to be undertaken as part of the first stage of implementing the SAP—to guide the development and implementation of a programming framework for the integrated management of the basin's resources, to place development initiatives in the context of preventing erosion and pollution and conserving nature, and to serve as a basis for decision-making, and the establishment of a threshold of sustainability for development projects undertaken by the various jurisdictions, either alone or jointly. The design of this planning framework will include funding requirements and will also take in account financing opportunities available from local, regional, and international sources.
- Extension and transfer of feasible approaches to sustainable economic development, resulting from experience during the SAP formulation stage, to the mitigation of environmental problems arising from the degradation of forests and soils by human activities in the form of pilot projects in order to promote diffusion of sustainable resource management techniques to the private sector, at the level of the local community, in order to encourage the restoration of degraded environments in the lower basin, management of forage in humid and sub-humid areas, productive restoration of *vinales*, sustainable

management of the agro-silvo-pastoral potential of subtropical zones, sustainable soil management and conservation, and management of excessive and deficient water flows.

- Identification of current subsistence practices in these communities and the introduction of programs designed to encourage the adoption of sustainable water and soil management practices to protect water and soil resources, including native fauna, particularly fish, in the natural ecosystems of the Bermejo river, while at the same time helping to satisfy the demand for food, fuel and shelter in rural communities.
- Optimization of soil and water use, controlling soil loss in and around areas under cultivation, and at the same time enhancing productivity through the development and implementation of technological packages for soil and water management in irrigated farming areas and the management of marginal lands particularly within the San Jacinto Project's area of influence.
- Securing of financial support for the sustainable development of the Bermejo Basin. Actions will be taken to help catalyze funding for the implementation of SAP project proposals, both those of immediate and long-term priority, as well as other complementary actions related to *inter alia* life quality improvement, poverty alleviation, health improvement, and the preservation of indigenous cultural heritage considered as important by both Governments for the sustainable development of the Binational basin. Specifically, donor roundtable meetings with representatives of local, regional, and international financing agencies will be convened to explore the possibilities of funds allocation to support development in the Bermejo basin. Both governments have initiated actions at the national level with the Inter-American Development Bank, seeking to obtain its participation as lead agency in the organization and conduct of the meetings planned to be held in the region within the first year of project activities.

**33.** The results of this activity will provide an agreed planning framework for sustainable management of water and other natural resources, within a regional regulatory context negotiated and supported through a broad process of public participation. It will serve as the basis for extending and deepening strategic efforts within both the public and private sectors at the community level, and will imply a concrete step toward the accomplishment of the objectives of the strategic program.

**34.** The output of this component will be the implementation of structural and non-structural practices of agricultural development that will also help to mitigate the impact of agriculture on more than 3000 degraded hectares within the humid and dry Chaco zones, and 77 sites where, in addition, other practices will be applied to rehabilitate degraded areas, in relation to specific public and private economic sectors. To this end, the output of the component also will include implementation of appropriate pasture and livestock management practices and the development of traditional, small-scale crops in the Yungas zones, implementing and/or improving traditional productive systems on a basis that is sustainable from an ecological, economic, and social viewpoint, and address land management in typical farm and pasture sites in the humid and sub-humid Chaco region of the lower basin, and undertake complementary actions to restore soil productivity. These outputs will include documented information on the extent of subsistence farming and fishing activities in the basin, a documented program of information dissemination for improving local understanding of sustainable farming and fishing practices, and community extension projects in selected places within the basin.

**35.** It is anticipated that the execution of these activities will be undertaken by the relevant governmental agencies at the national, prefectural/provincial, and municipal levels; research institutes; universities; NGOs; and private agricultural operations in the region. The coordination and supervision will be ensured by the Technical Coordinators at the Binational Commission. Component III is anticipated to be initiated during the first quarter of the project period. GEF: US\$3.03 million; co-funding: US\$2.97 million; total: US\$6.00 million. Funding provided for this activity will also be used to establish the Project Coordination Unit and to support the Binational Commission for implementation of the IWRMP.

#### **COMPONENT IV: PUBLIC AWARENESS, PARTICIPATION, AND REPLICATION OF PROJECT ACTIVITIES**

**36.** Component IV embraces activities to identify and coordinate the interests of people and organizations with economic and/or institutional responsibilities in the basin, including the agricultural and industrial private sectors. Access to information is an essential part of the process of encouraging local stakeholders to take an interest in sound management of the basin's natural resources. To this end, a central theme of this component will be to inform the citizenry, including corporate citizens, within the basin through an integrated

program of environmental education, institutional transparency, and exchange of information among communities, organizations, and government entities. Building on the achievements of the SAP formulation phase, further development of identified participatory mechanisms during the implementation phase, will set the grounds for extension of Project findings into the Plata River Basin. Actions are considered in this component to share experiences and promote international and regional cooperation seeking for mechanisms that will enhance positive synergies at the broader level within the Plata River Basin. The four clusters of activities to be conducted under this component will include.

- Implementation of environmental education programs (awareness, training, and formal and informal educational programs), including the development and distribution of curricula and materials for use in training teachers, and involving both community and private-sector initiatives in the scope of educational programming, specifically designed to improve educational opportunities in the most vulnerable communities, and promotion of awareness and understanding among the various stakeholder groups—social, political and economic—about the environmental consequences of improper use of natural resources and the impact of human activities, through workshops, seminars, meetings, bibliographies, manuals, brochures, the mass media, etc.
- Stimulation of public participation in environmental management of the BRBB by disseminating information to communities, corporations, and organizations through a variety of means—including public hearings, community-based legislative initiatives, environmental education courses, consultation and mobilization workshops, capacity strengthening programs, and use of the mass media (radio, television, Internet, newspapers) —to build a basic awareness so that individuals, organizations, and businesses will become engaged in the decision-making process.
- Acquisition and dissemination of technical information among water-resource professionals at all governmental levels involved in the use and management of waters of the Bermejo River—including data on weather and rainfall, water quality and sediments, hydrogeology, land use, environment, law, demography, economic development, specific development sites, finance, other types of information useful for professional monitoring, and information of more general interest for the public and other interested entities in the basin and beyond the basin within the broader context of the Plata River Basin. The information to be disseminated will stimulate informed participation in community decision-making, foster institutional transparency, and help standardize practices among professionals and jurisdictions. The dissemination system is also planned to provide the grounds for defining and monitoring specific indicators related to sustainable development and the environmental status of the BRBB, including land use and natural resources degradation and restoration trends in the Basin, and to help monitor project achievements. The actual definition and adoption of indicators will be done by means of a series of technical regional workshops, and will include (1) process indicators (focusing on the processes that will lead to desirable results), (2) stress-reduction indicators (focusing on actions with defined targets that will reduce the environmental stress on the water body), and (3) environmental status indicators (focusing on the actual improvement of the ecosystem quality).
- Replication of the methodological approach, findings, and recommendations of the Bermejo project to areas with similar problems within the Plata basin, in order to contribute to the promotion of a larger-scale and basin-wide strategic framework to address main environmental degradation processes, the identification of critical transboundary issues, and the definition of priority actions at the national and multinational level. This will be done *inter alia* by means of seminars, workshops, and information dissemination through various media.

**37.** The outputs of this component will include preparation of appropriate curricula at the different educational levels, publicity materials for promoting public awareness, and materials and manuals for use in teaching and teacher training. They will also provide a documented system of public participation, supported by suitable course materials and general information brochures, that will also benefit the regional public audience beyond the Bermejo Basin boundaries and build acceptance of public participation as a working methodology and philosophy in implementing SAP; documented user groups including a catalogue of information needs and environmental monitoring sites with suitable links to the information system; a regional information system within a GIS environment; and, one or more pilot-scale satellite information systems accessible to water management professionals, industry, and the community are key elements in this component.

**38.** It is anticipated that the execution of these activities will be undertaken by the relevant governmental agencies at the national, prefectural/provincial, and municipal levels; research institutes; universities; NGOs;



and corporations in the region. The coordination and supervision will be ensured by the Technical Coordinators at the Binational Commission. Component IV is anticipated to be initiated during the first quarter of the project period. GEF: US\$2.66 million; co-funding: US\$2.17 million; total: US\$4.83 million. This activity will complement and coordinate with a proposed medium-scale project to be financed by the GEF for the Upper Paraguay River Basin (SIAP, Environmental Information System for the Upper Paraguay) to be developed by Bolivia, Brazil and Paraguay, in order to create compatible and interactive information systems within and throughout the Plata River Basin.

**39. An exhaustive list of published documents emanating from the various project activities will be prepared by the Technical Units in close consultation with UNEP and GS/OAS for submission and endorsement at the first Steering Committee meeting. This list will specify documents published in the English language. In any case, all project outputs will have an English Executive Summary. A minimum of 100 copies of each of the published documents will be produced in English and provided to UNEP for its distribution and transmission to the GEF Secretariat. It is assumed that the countries will keep a sufficient number of copies of the published documents in Spanish language.**

### **STAKEHOLDER PARTICIPATION**

**40. Participation (Annex VI).** Public participation in the management of the water resources of Argentina and Bolivia is an integral feature of the project. More than 750 persons, representing in excess of 80 civil, corporate, nongovernmental, and governmental entities (having municipal, prefectural/provincial, federal, and international interests) participated in the consultation process that led to the identification and definition of some 250 detailed project documents. Consultation included, among many other activities, public and stakeholder meetings convened during the SAP formulation process within the Basin. These meetings were held in each of the major prefectural and provincial centers between December 1995 and July 1999. The full proceedings of these meetings, and the supporting documentation listed in Annex VII, are available from the Binational Commission. These meetings represented the continuation of contacts with the agencies, as well as with private sector representatives, academic institutions, and NGOs, initiated during SAP formulation, and improved and clarified specific issues arising from component proposals and other observations made during the project preparation period. Additional communications, including more than 700 letters and 500 sets of workshop documents received from and distributed to some 550 individuals and institutions on the program's mailing lists, ensured an highly transparent project preparation effort.

**41. Private sector involvement.** Community-based activities carried out during the SAP formulation phase resulted in the active participation of the private sector, in terms of participation by individuals as well as by producer and user associations. Pilot project demonstrations provided the grounds for active involvement of small- to medium-sized farmers, land owners, and specialized corporations which participated in the development and evaluation of sustainable management practices concerning forest conservation and restoration, forage management, sustainable practices for subsistence farming, and erosion and sediment transport control. Project activities will promote and enhance further participation of the private sector in replicating sustainable management practices and technologies, and provide opportunities and guidelines to offset risks associated with investments in the expansion of such practices. The project seeks to provide a planning framework to promote and catalyze the conduct of actions identified in the SAP, by articulating specific target investment areas comprised of governmental, nongovernmental, and private groups that could productively interact with regional and international banking and investment agencies.

**42.** The GEF project preparation steering committee met in Washington, D.C., during April and November 1997; in Nairobi, Kenya, during September 1998; and again in Washington, during September 1999. During these meetings, several consultations were held with representatives of the GEF Implementing Agencies, particularly The World Bank. During the SAP formulation, more than 250 individuals representing in excess of 25 institutions (both governmental and nongovernmental) were engaged as consultants in the conduct of demonstration projects, data acquisition and analysis, and needs assessments relating to the preparation of the TDA and SAP documents. Copies of all of the consultants' reports are available for consultation from UNEP and the GS/OAS. The principle findings identified by the public, government officials, and consultants, as well as the experiences of the agencies and public in the conduct of the demonstration projects, are contained within the SAP and given effect by this proposal. This proposal has been prepared by the Binational Commission of Argentina and Bolivia with the support of UNEP and GS/OAS specialists.

**43.** Popular participation was built into the demonstration projects and implementation project formulation. This high level of public and stakeholder participation will be continued during the development and implementation of the IWRMP for the BRBB. As noted above, overall stakeholder participation in the project, including community- and corporate-based environmental information and education campaigns, training courses and symposia, and actions, continues to be designed to increase the capacity and future participation of institutions, personnel, and individuals to undertake activities in support of the IWRMP. Further, specific actions are proposed to be conducted under the project which address issues related to public and stakeholder participation in the planning and implementation process, and/or which provide support for the further development of a sound public participation and involvement strategy as one of the strategic actions of the SAP implementation.

#### **EVALUATION AND DISSEMINATION**

**44. STAP review.** (Annex III) This project proposal was reviewed by Dr Williams, Professor Emeritus, Adelaide University, Australia, an International Waters Expert included in the STAP Roster of Experts. Comments made by Dr Williams have been addressed in Annex III but did not require any specific modification to the Brief. In general, the comments of the STAP reviewer were strongly supportive of the project approach, methodology and design.

**45. Dissemination.** Incorporated into this project are specific activities which explicitly aim to promote and disseminate the experiences obtained during the SAP implementation process to the water resources professionals and to communities within the BRBB and Plata River Basin through a program of public information and education. Further, the project is explicitly designed to encourage the integration of basin actors in various project activities, including transboundary pollutant transport and similar issue identification activities. As previously noted, all project activities will encourage and facilitate technology transfer and information dissemination through programs of public participation, stakeholder involvement, and professional and community-based education and information dissemination. Prefectural/provincial and municipal governmental, NGO, private sector, and citizen involvement in project execution will contribute to the dissemination of information on specific technologies and techniques that contribute to the sustainable environmental management and economic development of the watershed. This emphasis on public participation in the SAP implementation process for the BRBB will facilitate communication with all concerned organizations, agencies and citizens, and the adoption of a comprehensive strategic approach for the management of this critical drainage basin.

4.3 **Workplan and Timetable:**

**TABLE 1: PRELIMINARY DRAFT WORKPLAN AND TIME TABLE.** <sup>12</sup>

Component/Activity	2001 <sup>13</sup>				2002				2003				2004				2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND
Approval of UNEP prodoc																				
Preparation of TORS																				
Recruitment process																				
Steering committee meetings		M																		
Evaluation																				
<b>Component #1</b>																				
Institutional development and strengthening of the Binational Commission for the integrated management of the Basin																				
Institutional development for the integrated management of the Basin at the inter-jurisdictional level in Argentina																				
Institutional strengthening and capacity building for governmental and civil society organizations																				
Development and harmonization of political and legal frameworks for sustainable management of water resources in the Basin																				
Environmental zoning and land-use regulation																				
Strengthening and developing economic instruments to promote sustainable use of water																				
Development of strategies for incorporating environmental and social costs into project management and decision-making																				
<b>COMPONENT 2</b>																				
Sediment control in Tolmosa River Basin																				

<sup>12</sup> This workplan will be further refined and detailed for endorsement at the first Steering Committee meeting.

<sup>13</sup> The exact project duration is 4.5 years from May 2001 to October 2005. January to April 2001 represents the appraisal phase.

Component/Activity	2001 <sup>13</sup>				2002				2003				2004				2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND
Integrated management of natural resources of Santa Ana River Basin																				
Integrated management of the Iruya River Basin																				
Management of the Grande River Basin: mapping of the Huasamayo River subbasin																				
Introducing alternative forms of Ecotourism in piedmont transition forests in the vicinity of the El Rey and Calilegua national parks																				
Carbon fixation in the Yungas																				
Biodiversity study																				
Implementation of the Baritú-Tariquia-Calilegua biological corridor																				
Zoning and management plan for the Sama and Tariquia Reserves																				
Evaluation of sub-Andean rangelands																				
Zoning for the future Teuco National Park																				
Environmental clean-up of the Guadalquivir River																				
Environmental cleanup study for watercourses in the Bermejo Triangle																				
<b>COMPONENT 3</b>																				
Program for Integrated Management of Water Resources and Sustainable Development in the Bermejo River Basin																				
Sustainable management alternatives for natural resources in the humid and subhumid Chaco																				
Productive diversification under conditions of sustainability in the Yungas																				

Component/Activity	2001 <sup>13</sup>				2002				2003				2004				2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND	JFM	AM J	JAS	OND
Implementation of water and natural resource management practices consistent with traditional practices in the basin																				
Sustainable rural development in indigenous and native communities																				
Systematization of irrigated areas of the San Jacinto project																				
Securing of financial resources for the Bermejo River Basin																				
<b>COMPONENT 4</b>																				
Promotion of environmental education activities in the basin																				
Public participation program																				
Access to information in support of public participation																				
Developing networks and mechanisms of articulation among the various economic sectors and jurisdictional authorities in the basin																				
Developing and implementing an environmental information and monitoring system for the Bermejo River basin																				
Definition and adoption of IW indicators																				
Dissemination and replication of the Bermejo project into the broader context of the Plata Basin																				

#### 4.4 **Budget:**

##### **INCREMENTAL COSTS AND PROJECT FINANCING**

46. Incremental Costs are presented in Tables 2 and 3, and in Annex I. Recognizing the domestic benefits that will accrue from this project (e.g., identification of techniques and strategies for the prevention and control of erosion, land degradation, sediment control, flood control, and water supply for drinking and agricultural uses), the Governments of Argentina and Bolivia, the riparian provinces, prefectures and municipal governmental units, and other parties participating in the GEF project activities defined herein have proposed both loan-funding for the major infrastructural improvements required for the implementation of mitigation measures recommended under SAP and counterpart contributions for the cost-sharing of work program activity costs under this GEF project proposal. The Governments and other participating organizations are contributing or underwriting a substantial percentage of the total funds required, thereby demonstrating their full support and interest in this program. This investment is assumed to account for the full value of national benefits gained under this project, and will be applied specifically to costs associated with issues such as waste disposal and flood management. Further, the Governments of Argentina and Bolivia are contributing additional co-funding under internationally-financed programs, including the FONPLATA-PROSOFA program, the Inter-American Development Bank-PRISE program, and The World Bank-PROSAP and -PASMA projects (see Annex VIII). Incremental GEF financing will be applied specifically to catalyze activities such as mitigation and prevention of land degradation, wetland protection, biodiversity preservation, and control and minimization of persistent contaminants, institutional development at basin level for enhancing regional programming and coordination, public access to information and participation.

**Table 2. Incremental Cost Analysis (US\$ millions)**

	<b>Baseline</b>	<b>Alternative</b>	<b>Increment</b>
<b>Global Environmental Benefits</b>			
I. Institutional Development and Strengthening for Integrated Water Resources Planning and Management	1.86	3.75	1.89
II. Environmental Protection and Rehabilitation	1.43	4.25	2.82
II. Sustainable Development of Natural Resources	2.97	6.00	3.03
<i>(i) IV. Awareness, Participation and Replication of Project Activities</i>	2.17	4.83	2.66
<b>Sub-total</b>	<b>8.43</b>	<b>18.83</b>	<b>10.40</b>
Administrative Fees	0	0.64	0.64
<i>(b) TOTAL</i>	<b>8.43</b>	<b>19.47</b>	<b>11.04</b>

**Table 3. Component Financing (US\$ millions)**

ACTIVITY	GEF	Co-financing			TOTAL
		Government	UNEP	GS/OAS	
I. Institutional Development and Strengthening for Integrated Water Resources Planning and Management	1.89	1.86	0.15	0.15	<b>4.05</b>
II. Environmental Protection and Rehabilitation	2.82	1.43			<b>4.25</b>
III. Sustainable Development of Natural Resources	3.03	2.97			<b>6.00</b>
IV. Awareness, Participation and Replication of Project Activities	2.66	2.17			<b>4.83</b>
<b>TOTAL (Project Costs)</b>	<b>10.40</b>	<b>8.43</b>	<b>0.15</b>	<b>0.15</b>	<b>19.13</b>
Administrative Fees	0.64				0.64
(c) <i>GRAND TOTAL</i>	<b>11.04</b>	<b>8.43</b>	<b>0.15</b>	<b>0.15</b>	<b>19.77</b>

47. The budget as approved by the GEF is presented in Table 3 here above. A detailed GEF budget broken down by workelements is presented in Annex IX. The budget in UNEP format is presented in Annex XI of this document.

#### 4.5 Cash Advance Requirements:

48. An initial cash advance will be made upon signature of the project document by both parties and will cover expenditures expected to be incurred by the GS/OAS during the first six months from the UNEP contribution (i.e. GEF Funds provided by UNEP on behalf of the GEF) (see format in Annex XVI). Subsequent advances are to be made quarterly, subject to:

- (i) Confirmation by the GS/OAS, at least two weeks before the payment is due, that the expected rate of expenditure and actual cash position necessitate the payment, including a reasonable amount to cover "lead time" for the next remittance; and
- (ii) The presentation of:
  - (1) A satisfactory financial report showing expenditures incurred for the past quarter, under each project (see format in Annex XVI).

### SECTION 5 - INSTITUTIONAL FRAMEWORK

49. **Implementation Arrangements.** The organizational structure for the implementation of the SAP builds upon and improves that adopted during the formulation project, incorporating binational regional governmental and nongovernmental participatory bodies to provide for regional coordination and general project stewardship. Three functional levels are envisioned. At the highest level, the Binational Commission

will be responsible for the execution of the project under the auspices of the Steering Committee. The Steering Committee will be composed of two representatives of the Binational Commission, one from Argentina and one from Bolivia, a representative from UNEP as the GEF Implementing Agency, a representative of the GS/OAS and of IDB as GEF co-Executing Agencies<sup>14</sup>, and the national directors of the project from Argentina and Bolivia. The other GEF Implementing Agencies will be informed of, and may participate in, meetings of the Steering Committee in an ex officio capacity. Also, representatives of bilateral and multilateral donors as well as regional entities such as CIC may be invited to participate to the meetings of the Steering Committee in an ex officio capacity. **The Steering Committee** will approve the work program, oversee technical and financial arrangements relating to the project, and generally manage the progress of the project at regularly scheduled meetings of the Committee.

**50.** Coordination of the project at the regional level will be provided through a **Regional Coordinating Committee** composed by representatives of the provincial administrations of Argentina, and the Prefecture and Municipality of Tarija of Bolivia. This Committee will provide coordination, program support, and general supervision of project activities within their jurisdictions, and ensure articulations between and among governmental departments assigned to the management of the BRBB at the subregional level, including encouraging public participation in project activities. In coordination and with the support of the **Inter-ministerial Committee**, the Regional Coordinating Committee will seek incorporation of project findings and recommendations into the institutional and legal frameworks of the different jurisdictions. In addition, a **Regional Advisory Committee**, composed of representatives of NGOs, academic institutions, scientific and technical organizations, the private sector, citizens, and corporations with interests in the management of the natural resources of the BRBB, will contribute to the implementation of the project activities by encouraging public participation and providing coordination between nongovernmental organizations. The Regional Advisory Committee will also provide a conduit for public input to the project management.

**51.** At the operational level, within each country, two Project Executing Units will conduct the day-to-day operations of the project in close consultation with UNEP and GS/OAS. A National Director will be responsible for exercising administrative oversight for the day-to-day implementation of project activities in each country. A Technical Coordinator, based in each country, will have the responsibility for the coordination and execution of project tasks, administering the financial and human resources required, refining and evaluating the outputs of the component activities of the project, preparing periodic financial and technical reports on project progress for the Steering Committee, and providing information on the progress and results of the project activities to interested parties. In addition to this administrative organization, it is envisioned that project activities will be carried out by community-based entities—including governmental agencies, academic institutions, NGOs, and private enterprises (contractors and consultants)—who will execute specific portions of the activities set forth in the Work Program in accordance with their specific mandates and in cooperation with other interested parties and the general public under the guidance and direction of the National Director and Technical Coordinator. The National Director for each country will be confirmed at the first meeting of the Steering Committee. The Technical Coordinator for each country, to be contracted with GEF Funds by GS/OAS as the Executing Agency in consultation with UNEP, will also be confirmed at this inaugural meeting of the Steering Committee.

**52.** Administrative and reporting procedures consistent with UNEP standards and GS/OAS requirements for financial reporting will be established by the Steering Committee at its inaugural meeting. The program of work will be elaborated jointly by the Executing Units prior to the second meeting of the Steering Committee and inauguration of project activities. Finally, the Steering Committee, at its inaugural meeting, shall conduct any other such business as maybe required to initiate project activities, and set a date for the second meeting of the Committee. Subsequent meetings of the Committee shall be scheduled by the Committee but shall be at least every six months during the project period. The activities of the Steering Committee will be supported by the Binational Commission, with funds provided by GEF through the Implementing Agency. UNEP and GS/OAS will support Project Execution. GS/OAS, due to its historic involvement in the Basin, traditional partnership with UNEP in similar projects within the region, and its role

---

<sup>14</sup> IDB in its capacity of co-Executing Agency being in charge of the organization of donor roundtables (see component III) will be integral part of the Steering Committee. Nevertheless, the GS/OAS remains the main Executing Agency and as such will be in charge of all project administrative matters.



in implementing activities under related projects, will act as Executing Agency and manager of the funds provided to the project by UNEP on behalf of GEF, consistent with UNEP financial reporting requirements.

**53.** Activities of national personnel, with the support of the international agencies, will be based upon preparatory work and Terms of Reference prepared at the Coordinating Committee level, agreed with and approved by the Binational Commission, in consultation with UNEP and GS/OAS. To the extent possible, all activities will be executed by national agencies of Argentina and Bolivia, and/or by consultants from Argentina and Bolivia.

**54.** The main coordination activities will be implemented from the headquarters of COREBE, in Argentina, and of the OTN, in Bolivia. All project activities will be conducted within the Basin.

**55.** Under the supervision of UNEP, the General Secretariat of the Organization of American States (GS/OAS), will be responsible for the overall management of the project through their Unit for Sustainable Development and Environment (USDE). The GS/OAS will assign a Project Manager who will be responsible for the timely execution of the project activities, for co-ordinating the inputs of technical Units in Argentina and Bolivia and the various consultants hired under the project, and will liaise with UNEP (The Division of Early Warning and Assessment (DEWA) and the GEF Coordination Office - see below) on all matters regarding the project. For the implementation of the activities, the GS/OAS will work through co-executing arrangements with the Technical Units in Argentina and Bolivia.

**56.** UNEP through DEWA, and as the GEF Implementing Agency of this project, will be responsible for overall project supervision to ensure consistency with GEF and UNEP policies and procedures, and will provide guidance on linkages with related UNEP and GEF funded activities. UNEP also has the responsibility for regular liaison with the GS/OAS on substantive and administrative matters; assisting the Technical Units in Argentina and Bolivia upon request; and participating in meetings and workshops as appropriate. The UNEP/GEF Coordination Office will provide assistance and advice to the GS/OAS and UNEP/DEWA in project management (e.g. revisions of workplan and budgets) and policy guidance in relation to GEF procedures, requirements and schedules.

**57.** The GS/OAS will be responsible for timely production of financial and progress reports to UNEP as mentioned in section 4 and 6.

**58.** The UNEP/GEF Coordination Office in close collaboration with UNEP/DEWA will be responsible for clearance and transmission of financial and progress reports to the Global Environment Facility. UNEP/DEWA in close collaboration with UNEP/GEF Coordination Office retains responsibility for review and approval of the substantive and technical reports produced in accordance with the schedule of work. UNEP/DEWA also be responsible in collaboration with the GS/OAS for the production of the GEF Quarterly Operational Reports and their submission to the UNEP/GEF Coordination Office (see format in Annex XVII).

1. All correspondence on **substantive and technical matters** of the project should be addressed to:

**(1) In GS/OAS:**

**Mr. R. Meganck**

Director - Unit of Sustainable Development and Environment

With Copy to:

**Mr. Jorge Rucks**

Chief, Geographical group II - Unit of Sustainable Development and Environment

1889 F Street, NW, Room 340

Washington, DC 20006 United States of America

Tel: + 1-202-458-3556

FAX: + 1-202-458-3560  
Email: rmeganck@aos.org  
Email: jrucks@oas.org

**(2) In the Technical Units**

**Argentina**

Mr. Alfredo Agulleiro  
National Director  
COREBE  
Viamonte 783 - 4 Piso  
1053ABN – Capital Federal  
Buenos Aires, Argentina  
Tel: +54-11-4322-1990  
FAX: +54-11-4322-6298  
Email: cbbermejo@cbbermejo.org.ar

**Bolivia**

Mr. Jorge O'Connor d'Arlach  
National Director  
CONAPIBE  
Calle Espana Esquina Avenida  
Victor Paz Estensorro s/n  
Tarija, Bolivia  
Tel: +591-66-42610  
FAX: +591-66-45246  
Email: conapibe@olivo.tja.entelnet.bo

**(3) In UNEP:**

**Mr. Tim Foresman**

Director Division of Early Warning and Assessment (DEWA)

With copy to:

**Ms. Isabelle Vanderbeck**

Task Manager  
DEWA  
P.O. Box 30552  
Nairobi - Kenya  
Tel: + 254-2-624339  
FAX: + 254-2-622798  
Email: isabelle.vanderbeck@unep.org  
Email: tim.foresman@unep.org

And with copy to:

**Mr. John Pernetta**

Deputy Director  
GEF Coordination Office  
P.O. Box 30552  
Nairobi - Kenya  
Tel: + 254-2-624153  
FAX: + 254-2 623126/520825  
Email: john.pernetta@unep.org

All correspondence **administrative and financial matters** should be addressed to:

**(1) In GS/OAS:**

**Mr. R. Meganck**

Director - Unit of Sustainable Development and Environment

With copy to

**Mr. Richard Sims**

Administrative Officer - Unit of Sustainable Development and Environment

1889 F Street, NW, Room 340  
Washington, DC 20006 - United States of America  
Tel: + 1-202-458-3556  
FAX: + 1-202-458-3560  
Email: rmeganck@oas.org  
Email: rsims@oas.org

**(2) In the Technical Units:**

**Argentina**

Mr. Alfredo Agulleiro  
National Director  
COREBE  
Viamonte 783 - 4 Piso  
1053ABN – Capital Federal  
Buenos Aires, Argentina  
Tel: +54-11-4322-1990  
FAX: +54-11-4322-6298  
Email: cbbermejo@cbbermejo.org.ar

**Bolivia**

Mr. Jorge O'Connor d'Arlach  
National Director  
CONAPIBE  
Calle Espana Esquina Avenida  
Victor Paz Estensorro s/n  
Tarija, Bolivia  
Tel: +591-66-42610  
FAX: +591-66-45246  
Email: conapibe@olivo.tja.entelnet.bo

**(3) In UNEP:**

**Mr. Edmundo Ortega**

Chief  
Budget and Fund management Unit  
UNON  
P.O. Box 67578  
Nairobi - Kenya  
Tel: + 254-2-623637/ FAX: + 254-2-623755

With copy to

Ms. Immaculate Njeru  
GEF Fund and Administrative Officer  
GEF Coordination Office  
P.O. Box 30552  
Nairobi - Kenya  
Tel: + 254-2-623595  
FAX: + 254-2 623126/624041

## Organigram for the project execution

*Nivel Decisional*

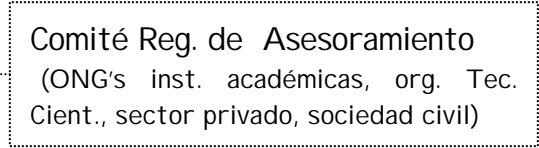
Comisión Binacional



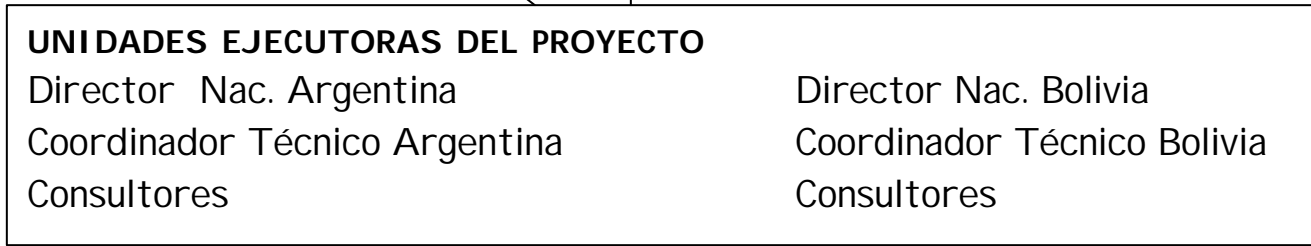
*Nivel de Coordinación*



*Nivel de Asesoramiento*



*Nivel Operativo*



## **SECTION 6: MONITORING AND REPORTING**

### **6.1. MONITORING AND EVALUATION:**

59. The administrative, technical, and financial reporting framework will be provided by the Implementing Agency through the Executing Agency and Steering Committee using standard UNEP reporting protocols. Utilizing key process and status indicators will be an intrinsic part of the project. These indicators will be implemented through the establishment and integration of monitoring tools into project components, as agreed by the Steering Committee at their second meeting, as set forth above. A monitoring and evaluation plan, based upon GEF monitoring and evaluation indicators (process, stress reduction, and environmental status), will be prepared by the Project Executing Units and Binational Commission in close consultation with UNEP and the GS/OAS, and will be approved by the Steering Committee. The objective of this monitoring is to contribute to improving, and, if needed, adapting the management of work program activities as well as creating the basis for project evaluation. Implementing Agency supervision will be exercised through the project Executing Units and the Executing Agency and by participation in the regular meetings of the Steering Committee, especially at the first and second meetings of the Steering Committee wherein the work plan will be discussed and agreed.

60. During the conduct of the project, UNEP in cooperation with GS/OAS will undertake two evaluation missions to diagnose possible problems and suggest the necessary corrective measures. It will evaluate the efficiency of the project management, including delivery of inputs and activities in terms of quality, quantity and timeliness.

61. Upon completion of the project, UNEP/DEWA and UNEP/GEF Coordination Office will undertake a desk evaluation to measure the degree to which the objectives have been achieved and highlighting for the GEF in particular, lessons learned in the preparation of a project of national scope. The evaluation should also seek to reflect the views and feedback from the country involved in the achievement of the project goals. This final desk evaluation will be undertaken according to UNEP approved Monitoring and Evaluation procedures.

62. A post facto in depth evaluation will be conducted, under the supervision of UNEP upon project completion, to evaluate the environmental impacts and long term effects of the project, and to make recommendations for future action, identify the conditions for successful replication if appropriate and draw generic lessons. This evaluation of the overall performance of the project undertaken by an external and independent consultant will be consistent with GEF procedures and within the framework of the Monitoring and Evaluation Programme of the GEF Secretariat.

### **6.2. QUARTERLY OPERATIONAL REPORTS:**

63. As at 31 July 2001, 31 October 2001, 31 January 2002, 30 April 2002, 31 July 2002, 31 October 2002, 31 January 2003, 30 April 2003, 31 July 2003, 31 October 2003, 31 January 2004, 30 April 2004, 31 July 2004, 31 October 2004, and 31 January 2005, 30 April 2005, 31 July 2005, and 31 October 2005, GS/OAS shall submit to UNEP/DEWA with a copy to UNEP/GEF Coordination Unit, using the format given in Annex XII and XIII, quarterly/half-yearly operational reports on the progress in project execution, scheduled to be submitted by GS/OAS within 15 days of the end of the reporting period.

### **6.3. TERMINAL REPORT:**

64. Within 60 days of project completion, the GS/OAS shall submit to the Chief Fund Programme Management Branch with copies to UNEP/DEWA and UNEP/GEF Coordination Office a project terminal report, using the format given in Annex XIV.

#### **6.4. SUBSTANTIVE REPORTS:**

**65.** As per section 4 above, copies of the substantive and technical reports produced in accordance with the schedule of work will be submitted to UNEP/DEWA for technical review with copies to UNEP/GEF Coordination Office and to the Chief, Fund Programme Management Branch. An exhaustive list of published documents will be prepared by the Technical Units in close consultation with UNEP and GS/OAS in advance of and for endorsement at the inaugural Steering Committee meeting.

**66.** The GS/OAS will submit to UNEP electronic draft copies of any substantive project report and publication for clearance prior to their publication in final form. UNEP's views on the report and any suggestions for amendments of wording will be conveyed expeditiously to GS/OAS with an indication of any disclaimer or recognition, which UNEP might wish to see appear in the publication.

Both the cover and the title page of all substantive reports and publications will carry both UNEP and GEF logos and the title "United Nations Environment Programme" and "Global Environment Facility" respectively, together with that of GS/OAS and the Binational Commission.

**67.** Copyright and royalties will normally be claimed by UNEP on publications produced and financed under the project.

**68.** UNEP will receive at least 100 copies of the published work in each of the agreed languages for its distribution purposes and transmission to the GEF Secretariat.

#### **6.5. FINANCIAL REPORTS:**

##### **6.5.1 PROJECT EXPENDITURE ACCOUNTS**

**69.** Project expenditures will be reported as follows.

- (i) Details of expenditures will be reported, every three months (As at 31 July 2001, 31 October 2001, 31 January 2002, 30 April 2002, 31 July 2002, 31 October 2002, 31 January 2003, 30 April 2003, 31 July 2003, 31 October 2003, 31 January 2004, 30 April 2004, 31 July 2004, 31 October 2004, and 31 January 2005, 30 April 2005, 31 July 2005, and 31 October 2005) on an activity by activity basis, in line with project budget codes as set out in the project document using the format given in Annex XVI. All expenditure accounts will be dispatched to UNEP within 15 days of the end quarter to which they refer, certified by a duly authorized official of the GS/OAS.
- (ii) In addition, UNEP requires that GS/OAS produces within 15 days of the end of the year, end of year expenditure account which should be reported as part of an annual independent audit of the External Auditors of the GS/OAS.
- (iii) Within 60 days of the completion of the project, the GS/OAS will supply UNEP with a final statement of account in the format as for the three-month statements. The General Secretariat confirms that the financial records of this programme will be an integral part of the financial records of the General Secretariat, which are subject to an independent audit by the board of External Auditors of the GS/OAS, and agrees to furnish copies of these audit reports to UNEP along with such other related information as may be requested by UNEP with respect to any questions arising from the audit report.
- (iv) Interests accrued on cash remitted to GS/OAS should be reported as part of cash advance accounts and related expenditure statements (see format in Annexes XV & XVI). Once reprogrammed, the amount of interests generated will be credited to the project. A proposal for the reprogramming of the funds will be prepared by the Technical Units in close consultation with UNEP and GS/OAS for endorsement at the next Steering Committee meeting.

- (v) Any portion of cash advances remaining unspent or uncommitted by the GS/OAS on completion of the project will be reimbursed to UNEP within one month of the presentation of the final statement of accounts. In the event that there is any delay in such disbursement, the GS/OAS will be financially responsible for any adverse movement in the exchange rates.

## **6.5.2 CASH ADVANCE ACCOUNTS**

70. A statement of advances of cash provided by UNEP should be submitted in the format shown in Annex XVI as at 31 January, 30 April, 31 July and 31 October.

## **SECTION 7: TERMS AND CONDITIONS**

### **7.1. NON-EXPENDABLE EQUIPMENT**

71. The GS/OAS will maintain records of non-expendable equipment (items costing \$1500 or more as well as items of attraction such as pocket calculators) purchased with UNEP funds, and will submit an inventory of all such equipment to UNEP, indicating description, cost, date of purchase, and present condition of each item attached to the 2nd and 4th quarter reports (see Annex XVIII for the inventory format). Upon completion of project activities, GS/OAS will attach to the terminal report a final inventory of all non-expendable equipment purchased under this project. All such equipment shall remain the property of UNEP until its disposal is authorized by UNEP, in consultation with the GS/OAS. The GS/OAS shall be responsible for any loss of or damage, ordinary wear and tear excepted, caused by GS/OAS to equipment purchased with UNEP funds. The proceeds from the sale of equipment duly authorized by UNEP upon completion of project activities shall be credited to the accounts of UNEP.

### **7.2 RESPONSIBILITY FOR COST OVERRUNS**

72. Any cost overrun (expenditure in excess of the amount budgeted in each budget sub-line) shall be met by GS/OAS, unless written agreement has been received by letter or cable, in advance, from UNEP. In cases where UNEP has indicated its agreement to a cost overrun in budget subline, either to transfer funds from one sub-line to another, or to increase the total cost to UNEP, a revision to the project document amending the budget will be issued by UNEP.

### **7.3. CLAIMS BY THIRD PARTIES AGAINST UNEP**

The GS/OAS shall be responsible for dealing with any claims which may be brought by third parties against UNEP and its staff, in relation to work executed by GS/OAS under this Agreement and UNEP shall not be liable to GS/OAS in relation to those claims unless those claims were caused by the negligence or other conduct of UNEP or UNEP's staff. Nothing in this Agreement may be construed as a waiver of the immunities from suit, legal process, and execution, of either UNEP or GS/OAS.

### **7.4. DISPUTES RESOLUTION PROVISION**

73. Any controversy or claim arising out of, or in accordance with this Agreement or any breach thereof, shall, unless it is settled by direct negotiations, be settled in accordance with the UNCITRAL Arbitration Rules as at present in force.

74. The parties shall be bound by any arbitration award rendered as a result of such arbitration as the final adjudication of any such controversy or claim.

### **7.5. MODIFICATION**

75. This Agreement may be modified or otherwise amended by the written agreement of the Parties, signed by their duly authorized representatives, dated, and attached hereto.

**7.6. TERMINATION**

76. Either party may terminate this Agreement with sixty days' advanced written notice to the other. In the event of such termination, each party shall provide the corresponding funding in accordance with its obligations herein to cover any project costs up until the termination date, including, but not limited to, the costs of complying with third-party commitments made pursuant to the project that may run beyond the termination date and which cannot be revoked without incurring liability.



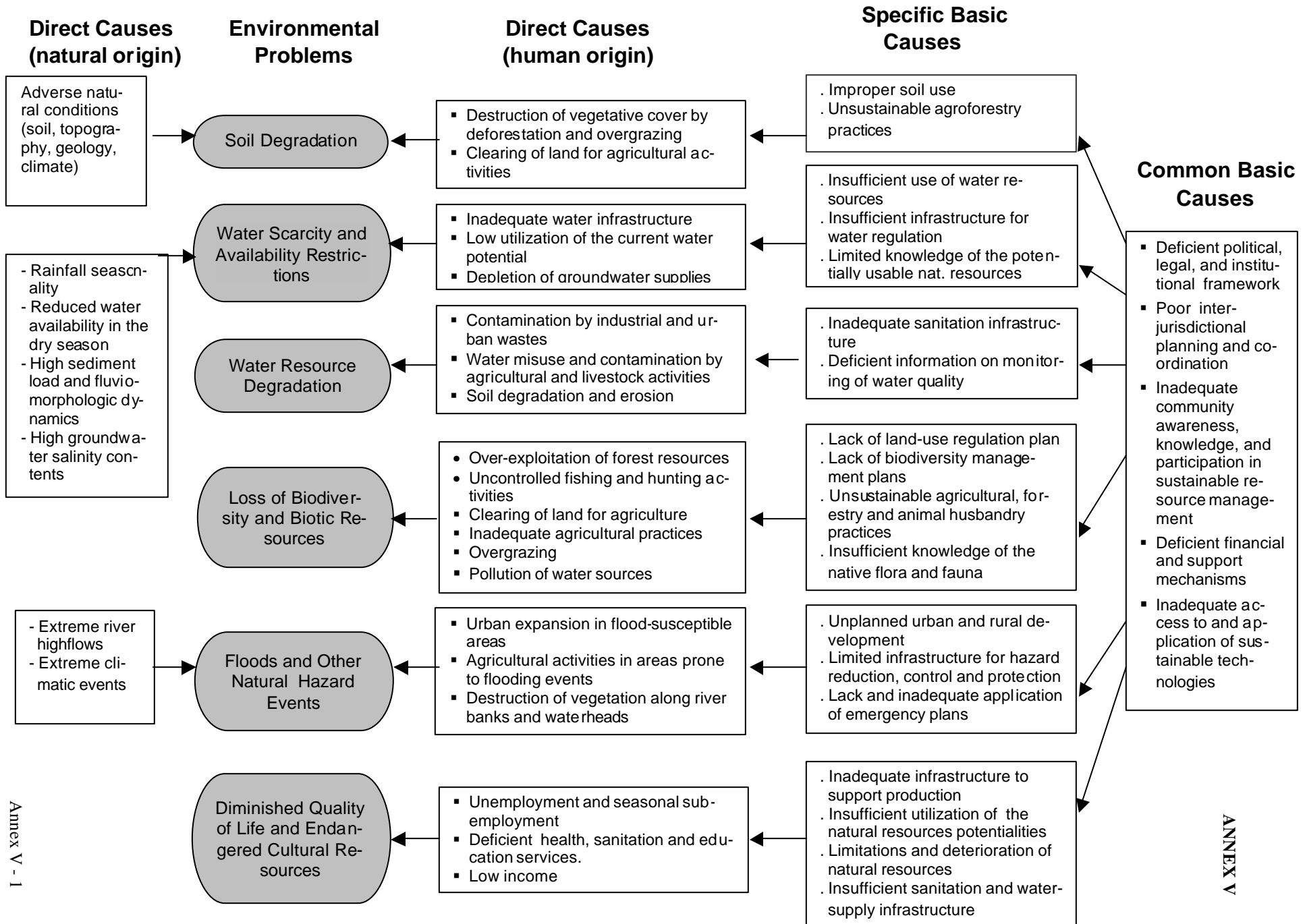
## LIST OF ACRONYMS

BRBB	Bermejo River Binational Basin
BC	Binational Commission for the Development of the Upper Bermejo River and Grande de Tarija River Basins
GEF	Global Environment Facility
IWRN	Inter-American Water Resources Network
GS/OAS	General Secretariat of the Organization of American States
OTN	National Technical Office for the Pilcomayo and Bermejo Rivers (Bolivia)
UNEP	United Nations Environment Programme
COREBE	Regional Commission for the Development of the Bermejo River Basin (Argentina).
IWRMP	Integrated Water Resources Management Program

## LIST OF ANNEXES

<b>Annex I.</b>	Incremental Cost
<b>Annex II.</b>	Logical Framework Matrix
<b>Annex III.</b>	Reviews and responses: (1) STAP Roster Technical Review and response, (2) GEF Sec. review and response, (3) World Bank Concept review and response, (4), and France's review and response.
<b>Annex IV.</b>	Letters of Endorsement
<b>Annex V.</b>	Root Causes Analysis and Strategic Actions
<b>Annex VI.</b>	Public Involvement Plan Summary
<b>Annex VII.</b>	Available Reference Documents
<b>Annex VIII.</b>	Plans and Development Programs within the Binational Basin of the Bermejo River Providing Associated Financial Support to Specific Priority Strategic Actions Identified in the SAP
<b>Annex IX.</b>	Proposed Work Program
<b>Annex X.</b>	SAP Summary
<b>Annex XI.</b>	Budget in UNEP format
<b>Annex XII.</b>	Format for quarterly reports
<b>Annex XIII.</b>	Format for halfyearly reports
<b>Annex XIV.</b>	Format for terminal report
<b>Annex XV.</b>	Format for Project Expenditure accounts
<b>Annex XVI.</b>	Format for cash advance statements
<b>Annex XVII.</b>	Format for GEF Quarterly Operation Reports
<b>Annex XVIII.</b>	Format for Equipment Inventory

# CAUSAL CHAIN RELATIONSHIP FOR PRIORITY ENVIRONMENTAL PROBLEMS



## INCREMENTAL COSTS

**1. Broad Development Goals.** The goal of the Strategic Action Program (SAP) for the binational basin of the Bermejo River (BRBB) is to promote environmentally sustainable development within the entire Bermejo Basin, taking into consideration the programs of investments of the governments of Argentina and Bolivia, the provinces and prefectures, municipalities, and local authorities as well as NGOs and private sector corporations.

**2. Baseline Situation.** The baseline situation consists of: (1) long-term development programs for the Basin, comprising investments in sanitation, agriculture, and other infrastructure such as river regulation and power generation; (2) environmentally-related activities (e.g., those activities indicated under SAP and ongoing, government-supported investments); and (3) relatively uncoordinated activities being planned or executed by many government agencies and/or private parties in the basin.

**3.** The baseline activities in category (1) include investments contained within the proposed development programs, many of which are summarized in Annex H. These activities may also include the components of category (2) activities described below, that will be executed primarily by the public sector with the support of external development agencies and the governments of Argentina and Bolivia, as well as other, additional investments required for the general development of agriculture, industry, and urban infrastructure within the basin. The costs of these general development programs have not been considered in the calculations presented in Table A.1. However, because such investments may be subject to modification as a result of the GEF project (i.e., in order to take into consideration sustainable development techniques and technologies), a modest GEF project contribution might have a substantial leverage effect in redefining those projects that might not, otherwise, be environmentally-sustainable.

**4.** Baseline activities in category (2) include environmental monitoring and remediation works being conducted by governments within the basin. These activities are contained in the above mentioned investment programs being undertaken by the governments of Argentina and Bolivia, and the prefectures and provinces, as well as in activities being conducted by the private sector, such as nature conservation and alternative means of sustainable production initiatives being funded through NGOs. Other, additional investments of the governments in routine environmental monitoring within the basin were not estimated. Although data gathered under these programs will be available to, and used in, the implementation of the SAP for the BRBB, no additional efforts will be undertaken under this project. As a consequence, the costs of these general programs have not been considered in the calculations presented in Table A.1.

**5.** The baseline activities in category (3) include activities presently being executed by some government agencies, having an indirect relationship to specific SAP activities. Baseline costs are, in each case, the amount that those government agencies are planning to spend in the next four years, in the absence of the GEF program. As noted above, this project will have access to,

and make use of, data gathered under ongoing environmental investigations, but will not supplement current investments by the governments in this area. Notwithstanding, some proposed monitoring activities that form part of the ongoing programs, but which have not yet been initiated, will be financed in part through the GEF project (e.g., partial funding to extend preliminary analyses of environmental contamination in the basin, and to create human and institutional capacity for monitoring and information management which forms elements of Component IV). Hence, the activities proposed herein represent new activities not previously supported by governmental agencies. Investments represented by existing monitoring programs, therefore, have not been considered in the calculations presented in Table A.1.

**6.** In summary, the estimated baseline investment upon which this GEF project is being developed is limited to operational and maintenance costs associated with current operating costs of the Binational Commission and its national counterparts (COREBE and OTN) estimated at about US \$ 1,000,000 including support for ongoing consultations with local government staff; the operational and maintenance costs of existing remedial measures, and ongoing extension services provided by regional universities and governmental agencies, estimated at about US \$ 2,250,000; the operational and maintenance costs of the national park and reserve systems and related costs associated with the operations of regional universities and national NGOs, estimated at about US \$ 3,000,000; and the annual costs of supporting the existing hydrometeorological information network and public informational programming, estimated at about US \$ 2,000,000 per year. In general, the additional activities proposed under the work program for this project would not be undertaken in the absence of GEF intervention.

**7. GEF Alternative Scenario.** The alternative scenario consists of the implementation of those actions needed to both introduce sustainable development into development projects in the BRBB, and achieve the resulting global environmental benefits embodied in the mitigation of transboundary environmental problems. In the first instance, these actions will focus on the control of erosion and sediment transport, and the prevention, and rehabilitation and protection, of land degradation. The costs of these actions are the costs necessary to include sustainable development considerations in the development projects within the basin, over and above the requirements of the regular environmental impact assessments and mitigation measures required to be completed under existing Argentina and Bolivian national and provincial/prefectural environmental laws and regulations.

**8.** Water resources in the BRBB are currently managed by a variety of local, provincial/prefectural, and national government agencies, with a degree of integration provided by the Binational Commission and its corresponding regional counterpart agencies. Strengthening of the Binational Commission is a means of bringing additional coordination to the local execution of governmental and community-level responsibilities within the basin. Support for the evolution of a basin organization within the BRBB is to be provided through GEF support. The incremental cost of this activity is estimated to be about US \$ 2,000,000.

**9.** Several global and domestic benefits have been identified as being promoted by the GEF intervention; namely, decreased transboundary transport of contaminants, increased riverine biodiversity, decreased degradation of soils, increased knowledge of river behavior, improved coordination of actions for river basin management and planning, and dissemination of knowledge. The incremental costs of these activities are estimated to be about US \$ 8,000,000.

The benefits arising from these activities are reflected in the project activities presented in Table A.2. These benefits are:

Component I (Activities 1.1 and 1.2 in Annex I). The baseline cost of this component is about US \$ 1.86 millions, and is comprised of the current operational costs incurred by the Binational Commission and its partner agencies, COREBE and OTN. Improvement of knowledge about natural and anthropogenic influences on water flow and quality is expected to result in better use of water and natural resources in the basin, thus generating additional global and domestic benefits. In addition, benefits arising from the development of an effective basin organization within the BRBB, working in partnership with relevant provincial/prefectural authorities, would significantly improve the ability of communities to develop socially and economically in a sustainable manner. The alternative cost is about US \$ 3.75 millions: GEF funding in the amount of about US \$ 1.89 millions is requested to conduct various activities designed to promote or facilitate the formulation and implementation of an effective environmental and water resources management framework within the basin. The governments of Argentina and Bolivia and local governmental and non-governmental organizations will contribute the sum of US \$ 1.86 to cover reinforcement of institutions working in the basin, and additional operational costs.

**Table 3. Component Financing (Million US \$).**

ACTIVITY	GEF	Co-financing			TOTAL
		Government	UNEP	OAS	
I. Institutional Development and Strengthening for Integrated Water Resources Planning and Management	1.89	1.86	0.15	0.15	<b>4.05</b>
II. Environmental Protection and Rehabilitation	2.82	1.43			<b>4.25</b>
III. Sustainable Development of Natural Resources	3.03	2.97			<b>6.00</b>
IV. Awareness, Participation and Replication of Project Activities	2.66	2.17			<b>4.83</b>
<b>TOTAL (Project Costs)</b>	<b>10.40</b>	<b>8.43</b>	<b>0.15</b>	<b>0.15</b>	<b>19.13</b>
Administrative Fees	0.64				0.64
<b>GRAND TOTAL</b>	<b>11.04</b>	<b>8.43</b>	<b>0.15</b>	<b>0.15</b>	<b>19.77</b>

Component II (Activities 2.1 to 2.3 in Annex I). The baseline cost of this component is about US \$ 1.43 millions, and is comprised of the cost associated with existing university- and government-based extension services, local NGOs in establishing buffer strips around nature reserves and preparing ecoregional plans for the basin. The global benefit to be obtained through the implementation of selected activities effecting the rehabilitation of natural vegetative cover, use of appropriate agricultural practices and land use regulations, erosion control, water quality

enhancement and the mitigation of degraded lands may also result in domestic benefits arising from increased agricultural productivity and health improvements. The alternative project cost is about US \$ 4.25 millions: GEF funding in the amount of about US \$ 2.82 millions is requested for extension of feasible demonstration projects and other activities. The governments of Argentina and Bolivia and local governmental and non-governmental organizations will contribute about US \$ 1.43 millions to cover the strengthening of human resources capacity, and additional operation costs.

Component III (Activities 3.1 and 3.4 in Annex I). The baseline cost of this component is about US \$ 2.97 millions, and is comprised of the cost associated with water resources planning, and allocation, technology development and extension activities carried out by governmental agencies, user organizations, and local NGOs, operating in certain communities. The global benefits of improving water availability and expanding efficient and sustainable water and land utilization practices, based on comprehensive water and natural resource management programs at basin level, and on land use zoning will derive from increased income at community level and enhanced health and living standards, particularly in most vulnerable communities, including indigenous people. The alternative project cost is about US \$ 6.0 millions. GEF funding in the amount of about US \$ 3.03 millions is requested to conduct various activities designed to promote or facilitate the introduction of planning and sustainable development techniques within the basin. The governments of Argentina and Bolivia and local governmental and nongovernmental organizations will contribute a sum of about US \$ 2.97 millions to implement demonstration projects and to cover the strengthening of human resources capacity, reinforcement of institutions working in the basin, and additional operation costs.

Component IV (Activities 4.1 through 4.3 in Annex I). The baseline cost of this component is US \$ 2.17 millions, and is comprised of the current operational costs associated with the operation of the hydrometeorological network, processing and dissemination of the information and environmental education activities carried out by government based organization, universities, and regional and national NGOs. Improvement of knowledge about natural and anthropogenic influences on water flow and quality is expected to result in more effective participation in the decision-making process affecting resource management in the basin, at both the professional and community levels, thus generating additional global and domestic benefits. The alternative cost is about US \$ 4.83 millions: GEF funding in the amount of about US \$ 2.66 millions is requested to conduct various activities designed to promote or facilitate environmental education and water resources training, information acquisition and dissemination, and development of an environmental information system in the basin. The governments of Argentina and Bolivia and local governmental and nongovernmental organizations will contribute a sum of about US \$ 2.17 millions in support of training and environmental education programs at all levels within in critical communities and agencies throughout the basin; and, the costs of implementation of information acquisition and dissemination projects at both the professional and community levels throughout the BRBB.

**10. Additional Domestic Benefits and Costs.** Reduced soil loss, improved flood forecasting, improved water quality, retained biodiversity and biological structure and functioning, and more effective and sustainable use of available water resources are local benefits to be expected as a result of the activities of the Project. Additional local costs are unknown at this stage. Hence,

any additional benefits to be derived from these environmental improvements cannot be estimated. Nevertheless, it is assumed that the domestic funding provided will compensate for the domestic benefits achieved.

**11.** Table A.3 presents an indicative financial plan under which this 4.5 year project will be implemented. It should be noted that specific expenditures for Components may be initiated at any time during the six-month period preceding the indicated date, as human and financial resources, and prerequisite information availability, warrant. Further, it is anticipated that each component within the four principal Components is likely to be executed over the period of at least one year. Project expenditures are summarized by budget category in Table A.4.



**Table A.1. Incremental Cost Analysis (Million US \$)**

	Baseline	Alternative	Increment
<b>Global Environmental Benefits</b>			
I. Institutional Development and Strengthening for Integrated Water Resources Planning and Management	1.86	3.75	1.89
II. Environmental Protection and Rehabilitation	1.43	4.25	2.82
II. Sustainable Development of Natural Resources	2.97	6.00	3.03
IV. Awareness, Participation and Replication of Project Activities	2.17	4.83	2.66
<b>Sub-total</b>	<b>8.43</b>	<b>18.83</b>	<b>10.40</b>
Administrative Fees	0	0.64	0.64
<b>TOTAL</b>	<b>8.43</b>	<b>19.47</b>	<b>11.04</b>

**Table A.2. Component Financing (Million US \$).**

ACTIVITY	GEF	Co-financing			TOTAL
		Government	UNEP	OAS	
I. Institutional Development and Strengthening for Integrated Water Resources Planning and Management	1.89	1.86	0.15	0.15	<b>4.05</b>
II. Environmental Protection and Rehabilitation	2.82	1.43			<b>4.25</b>
III. Sustainable Development of Natural Resources	3.03	2.97			<b>6.00</b>
IV. Awareness, Participation and Replication of Project Activities	2.66	2.17			<b>4.83</b>
<b>TOTAL (Project Costs)</b>	<b>10.40</b>	<b>8.43</b>	<b>0.15</b>	<b>0.15</b>	<b>19.13</b>
Administrative Fees	0.64				0.64
<b>GRAND TOTAL</b>	<b>11.04</b>	<b>8.43</b>	<b>0.15</b>	<b>0.15</b>	<b>19.77</b>

**Table A. 3. Indicative Schedule of Expenditures (Million US \$).**

<b>Component</b>	<b>March 2001</b>	<b>March 2002</b>	<b>March 2003</b>	<b>March 2004</b>	<b>March 2005</b>	<b>Total</b>
Steering Committee	UNEP: 0.03	UNEP: 0.03	UNEP: 0.03	UNEP: 0.03	UNEP: 0.03	UNEP: 0.15
	OAS: 0.04	OAS: 0.03	OAS: 0.02	OAS: 0.03	OAS: 0.03	OAS: 0.15
GEF	1.45	3.15	2.65	2.15	1.0	10.40
Non-GEF	0.88	1.60	2.60	2.50	0.85	8.43
Administrative Fees	0.04	0.15	0.15	0.15	0.15	0.64
<b>Total</b>	2.44	4.96	5.45	4.86	2.06	19.77

**Table A.4. Project Financing per Expenditure Category (Million US \$).**

<b>DESCRIPTION</b>	<b>GEF</b>	<b>NON-GEF</b>	<b>TOTAL</b>
Personnel	0.30	4.69	4.99
Consultants	3.43	0.06	3.49
Administrative Support Staff	0.10		0.10
<b>Sub-total Personnel</b>	<b>3.83</b>	<b>4.75</b>	<b>8.58</b>
Support Activities	3.08	1.65	4.73
Workshops and Training	1.36	0.53	1.89
Travel	0.99	0.38	1.37
Expendable Equipment	0.59	0.39	0.98
Non-Expendable Equipment	0.85	0.73	1.58
Administrative Fees	0.64		0.64
<b>Total (Project Cost)</b>	<b>11.34</b>	<b>8.43</b>	<b>19.77</b>

## MATRIX OF THE LOGICAL FRAMEWORK

OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	VERIFICATION METHODS	CRITICAL POINTS AND RISKS
<b>GOAL</b>			
To promote the sustainable development of the Río Bermejo Basin by implementing the Strategic Action Program for the Binational Río Bermejo Basin (SAP)	Strategic Action Program for the Binational Río Bermejo Basin (SAP) is being implemented in full, with verifiable progress made in the following areas: <ul style="list-style-type: none"> <li>- Inclusion of environmental concerns into the region's policies, plans, and programs.</li> <li>- Establishment of mechanisms for regional coordination and interconnection and public participation.</li> <li>- Implementation of the corrective and preventive environmental programs, projects, and actions, and those for the sustainable development of natural resources, that were given priority in the SAP.</li> </ul>	<ul style="list-style-type: none"> <li>- Reports from the Regional Coordinating Commission that is to be set up under the SAP.</li> <li>- Final reports, progress reports, and assessments of completed and ongoing projects.</li> </ul>	<ul style="list-style-type: none"> <li>- The governments provide the Regional Coordinating Commission with effective support, and the Commission actively interconnects all the social stakeholders in the basin.</li> <li>- The financial commitments of the agencies in charge of executing the SAP's different projects are maintained.</li> <li>- External funding is channeled into the implementation of the SAP's projects</li> </ul>
<b>PURPOSE:</b>			
To promote and reestablish the correct environmental functioning of the system, by executing selected strategic actions that complement and facilitate the efforts of the Argentine and Bolivian governments and institutions in implementing the SAP.	Institutional, financial, organizational, and legal mechanisms in operation in the basin; pilot demonstration studies and actions have been carried out; SAP implementation process is underway.	<ul style="list-style-type: none"> <li>- Final assessment report on the project.</li> <li>- Report of the Steering Committee.</li> </ul>	The participating agencies coordinate actions and maintain the priority of the projects within the institutional structure of the SAP.
<b>RESULTS:</b>			
<p><b>I) INSTITUTIONAL DEVELOPMENT AND STRENGTHENING:</b> Establishing a participatory institutional and legal framework, including both the public and private sectors, and providing a multisectoral and integral approach to environmental management and economic development in the basin.</p> <p><b>II) ENVIRONMENTAL PREVENTION, PROTECTION, AND REHABILITATION:</b> Implementation of basin management measures aimed at priority transboundary issues related to the prevention and control of sediment production and transport, water quality pollution and degradation, nature conservation, and protection of biodiversity.</p> <p><b>III) SUSTAINABLE DEVELOPMENT OF NATURAL RESOURCES:</b> Promoting the use of alternative sustainable methods of production that are environmentally friendly, minimize environmental degradation, and provide the population with better economic opportunities.</p> <p><b>IV) PUBLIC PARTICIPATION AND AWARENESS:</b> Coordinating and supporting the interests of the basin's different stakeholders, through environmental education, institutional transparency, social participation, and the generation and exchanging of information.</p>	<p>The working program has been implemented and significant goals have been achieved, over a period of four years, through 31 projects and four components. Achievements:</p> <p>I) Institutional and legal framework for integrated basin management is being consolidated and is functioning efficiently.</p> <p>II) Actions, pilot demonstrations, and complementary basic studies have been carried out, setting the technical grounds for prevention and the environmental rehabilitation of ecosystems.</p> <p>III) (a) Integrated basin planning system, procedures, or actions have been agreed upon, consolidated, and operating, (b) Sustainable natural resource usage practices have been developed and disseminated.</p> <p>IV) Representative sectors of the population that are sufficiently informed, aware, and actively participating in the basin's natural resource management programs, projects, and actions.</p>	<ul style="list-style-type: none"> <li>- Final assessment report on the project.</li> <li>- Reports from the Regional Coordinating Commission that is to be set up under the SAP.</li> </ul>	<ul style="list-style-type: none"> <li>- Environmental considerations are duly incorporated into the projects, programs, policies, and actions of the agencies involved in managing the basin's natural resources, thus ensuring their sustainability.</li> </ul>

## ACTIVITIES UNDER COMPONENT I: INSTITUTIONAL DEVELOPMENT AND STRENGTHENING<sup>1</sup>

OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	START & END DATES	VERIFICATION METHODS	CRITICAL POINTS AND RISKS
<p>1.1 DEVELOPMENT OF AN INSTITUTIONAL FRAMEWORK: Consolidated institutional framework for integrated basin management, through the Binational Commission, with participation by the institutions and political districts of both countries, through the implementation of the following actions:</p> <p><b>P.1.</b> Institutional development and strengthening of the Binational Commission.  <b>P.2.</b> Basin -wide institutional development in Argentina.  <b>P.8.</b> Strengthening of institutions and of the capabilities of governmental and civil society organizations.</p>	<p><b>P.1</b> (a) Interjurisdictional mechanism for coordination, programming, and control, with authority throughout the entire basin, has been designed, agreed upon, implemented, and operating.  (b) Strategies for the institutionalization of the functions of basin agency at the binational level have been designed and agreed upon.  (c) Binational Commission and regional and jurisdictional institutions, private institutions, and NGOs have been strengthened and trained to actively participate in this organizational structure and in the implementation of programs and projects.</p> <p><b>P.2.</b> Interjurisdictional basin agency in Argentina has been designed, agreed upon, consolidated, and is operating. Regional Commission of the Río Bermejo (COREBE) and the jurisdictional representatives have been strengthened.</p> <p><b>P.8.</b> The technical capacities and equipment resources of governmental and civil society organizations responsible for or participating in the management of the basin's natural resources have been strengthened.</p>	<p>Start: 07/year1 End: 06/year4</p> <p>Start: 07/year1 End: 06/year3</p> <p>Start: 07/year 1 End: 06/year4</p>	<p>Interjurisdictional Binational Agreement formalizing the implementation of the coordination, programming, and control mechanism. Final reports on work element.</p> <p>Final reports on the project. Statutes of the COREBE functioning as the basin agency.</p> <p>Inventory of supplied equipment. Assessment reports on courses taught.</p>	<p>The governments of the two countries, the provincial governments, the prefecture, and the municipalities agree to adopt the institutional and legal recommendations developed in the project.</p> <p>Political acceptance in the COREBE area.</p> <p>Governments and organizations facilitate the right personnel for training.</p>
<p>1.2 DEVELOPMENT OF A LEGISLATIVE FRAMEWORK: Strengthened regulatory framework for the use and preservation of the basin's natural resources, through the following actions:</p> <p><b>P.3</b> Development and harmonization of regional legal framework.  <b>P.7</b> Environmental and territorial zoning.  <b>P.9</b> Strengthening and development of economic instruments.  <b>P.10</b> Inclusion of environmental and social costs in development projects.</p>	<p><b>P.3.</b> Actions to promote and implement regional and district legal frameworks have been developed and harmonized, particularly as regards environmental laws, water codes, environmental impact assessments, public participation, and access to information.</p> <p><b>P.7.</b> Territorial zoning has been applied and promoted as a basic planning instrument. In Argentina, application to pilot demonstration cases to provide common technical and methodological guidelines; in Bolivia, preparation of a territorial zoning plan for the entire basin.</p> <p><b>P.9.</b> Economic instruments have been designed, agreed on by consensus, and included as mechanisms for assessing economic value of water, and the generation of funds for managing water resources.</p> <p><b>P.10.</b> Methodological guidelines and implementation strategies have been designed and agreed on for the inclusion of environmental and social costs in the assessment of development projects, using methods that place value on the resources and services of nature. Methodology applied to pilot case studies and result assessments.</p>	<p>Start: 01/year2 End: 12/year3</p> <p>Start: 01/year2 End: 12/year3</p> <p>Start: 01/year2 End: 06/year3</p> <p>Start: 06/year2 End: 12/year3</p>	<p>Final reports on work elements. Regulations, guides, and manuals drawn up. Rules for implementing management instruments. Territorial zoning plan for the Upper Basin in Bolivia. Final report on the work element.</p> <p>Final report on the work element.</p>	<p>National, provincial, and prefectural authorities recognize the need for and promote the furtherance of environmental legislation. The proposed rules are duly approved on time. The participating institutions and communities coordinate actions and maintain the priorities of the projects within their institutional structures.</p>

<sup>1</sup>Numbers refer to project identification in SAP

## ACTIVITIES UNDER COMPONENT II: ENVIRONMENTAL PREVENTION, PROTECTION, AND REHABILITATION

OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	START & END DATES	VERIFICATION METHODS	CRITICAL POINTS AND RISKS
<p>2.1 SOIL MANAGEMENT AND EROSION CONTROL: Application of appropriate structural and nonstructural measures for soil conservation and erosion control, through a basin management approach, in selected critical areas of the basin. The following actions will be carried out:</p> <p><b>P.51.</b> Sediment control in the Río Tolomosa Basin. <b>P.55.</b> Integral management of the natural resources of the Río Santa Ana Basin. <b>P.58.</b> Integrated management of the Río Iruya Basin. <b>P.59.</b> Management of the Río Grande Basin. Systematization of the Río Huasamayo Subbasin.</p>	<p><b>P.51.</b> Sediment in transit and soil erosion has been controlled, with a 25% fall in silting at the San Jacinto dam and losses of agricultural soils. Practices applied in the Río Mena subbasin: construction of 5 soil dikes and 10 gabion dikes; 160 ha closed off for natural regeneration; reforestation of 80 ha; soil management on 600 ha; technical assistance and training.</p> <p><b>P.55.</b> Integrated natural resource management plan in the Río Gamoneda subbasin has been implemented, through irrigation stream regulation work, agricultural soil conservation, and reducing erosion. Involving the sustainable management of 200 ha of land used for dry farming, 50 ha of irrigated land, and 500 ha of silvo-pastoral land.</p> <p><b>P.58.</b> Management plan or practices for soil conservation and the prevention and control of sediment production and transportation in the Río Iruya Basin have been designed, applied, and assessed. Pilot demonstration project to reduce erosion on farm terrace rills has been carried out. Structural actions implemented in the Colanzulí pilot project. Results transferred to the community. Land use regulation plan designed and adopted. Participatory follow-up actions designed and implemented.</p> <p><b>P.59</b> Structural actions and management measures have been designed, agreed on by consensus, and carried out, in order to: (a) reduce torrential erosion in the Río Huasamayo Subbasin; (b) practices to be implemented throughout the Río Grande Basin assessed and selected.</p>	<p>Start: 04/year1 End: 09/year2</p> <p>Start: 01/year2 End: 06/year3</p> <p>Start: 07/year1 End: 06/year4</p> <p>Start: 01/year2 End: 06/year4</p>	<p>Final report on the work element. On-site inspection.</p> <p>Final report on the work element. On-site inspection.</p> <p>Progress reports and final report on the work element. Works inspection reports. Reports from meetings and workshops involving the community.</p> <p>Final report on the work element. Works inspection reports. - Reports from community workshops and meetings.</p>	<p>Local people accept and participate in the planned actions.</p> <p>Local people accept and participate in the planned actions.</p> <p>Municipalities and local communities participate actively in the planned actions. No exceptional meteorological events will take place.</p> <p>Municipalities and local communities participate actively. No exceptional meteorological events will take place.</p>
<p>2.2 CONSOLIDATION OF PROTECTED AREAS AND PROTECTION OF BIODIVERSITY: Protection of biodiversity and promotion of the sustainable development of local communities through the consolidation and development of protected areas, the creation of buffer zones, the execution of basic studies into natural resources, and the execution of pilot carbon fixation actions. The following activities are involved: <b>P.14</b> Implementation of ecotourism alternatives in El Rey and Calilegua National Parks.</p>	<p><b>P.14.</b> Ecotourism activities have been introduced in the mountain forests, including the monitoring and assessment of ecotourism alternatives in El Rey National Park, and the identification, design, and implementation of ecotourism alternatives in the buffer zone of the Calilegua National Park.</p> <p><b>P.16</b> (a) Studies into the current status of natural resources in the sub-Andean region have been carried out. (b) A pilot plan for the management and conservation of natural resources has been designed and executed, focusing on increased fixation of carbon through sustainable productive practices, the ordered use of natural resources, and the application of techniques to protect, conserve,</p>	<p>Start: 07/year1 End: 06/year4</p> <p>Start: 07/year2 End: 06/year4</p>	<p>Final report on the work element. Agreements with owners in the buffer zones. Reports on improvements and investments made.</p> <p>Final report on the work element. On-site inspection.</p>	<p>The national and provincial tourism authorities encourage and adopt the initiatives. Tourism providers incorporate ecotourism activities into their tours. Owners actively participate in and promote the initiatives</p>

OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	START & END DATES	VERIFICATION METHODS	CRITICAL POINTS AND RISKS
<p><b>P.16</b> Carbon fixation in the sub-Andean region.</p> <p><b>P.17</b> Study of biodiversity.</p> <p><b>P.20</b> Creation of the Baritú-Tariquía Biological Corridor.</p> <p><b>P.19</b> Zoning and management plan for the Sama and Tariquía reserves.</p> <p><b>P.18</b> Evaluation of pastureland in the sub-Andean region.</p> <p><b>P.22</b> Zoning for the planned Teuco National Park.</p>	<p>manage, and rehabilitate habitats that have deteriorated.</p> <p><b>P.17.</b> Studies have been conducted into the current status of biodiversity in the Upper Bermejo Basin and the levels of ecosystem conservation, and action lines for conserving and managing them have been proposed.</p> <p><b>P.20.</b> The interconnection of the Baritú Park (Argentina) and Tariquía Reserve (Bolivia) protected areas has been assured through the legal and administrative consolidation of the corridor and the adoption of an integral management plan for natural resources and for administrating these areas.</p> <p><b>P.19.</b> (a) Proposal for the redefining, recategorization, and zoning of the Sama and Tariquía biological reserves has been drawn up. (b) Management plan for the two reserves has been designed.</p> <p><b>P.18.</b> Zoning study and description of natural pastureland in the sub-Andean ecoregion has been drawn up, its management status has been surveyed, and a sustainable management plan for these natural pasturelands has been prepared.</p> <p><b>P.22</b> The sector's real potential as a protected area has been defined, with the establishment of conservation goals, the zoning of the area (250,000 ha), and recommendations for its management and the creation of a protected area.</p>	<p>Start: 01/year2 End: 12/year2</p> <p>Start: 10/year1 End: 06/year4</p> <p>Start: 07/year1 End: 06/year2</p> <p>Start: 01/year3 End: 10/year3</p> <p>Start: 10/year1 End: 09/year2</p>	<p>Final report on the work element.</p> <p>Final report on the work element. Report from executing agencies Reports from meetings and workshops with the community.</p> <p>Final report on the work element. Report from PROMETA.</p> <p>Final report on the work element.</p> <p>Final report on the work element.</p>	<p>Local people accept and participate in the planned actions.</p> <p>The agencies responsible for managing protected areas respond appropriately to the programmed actions. Local people accept and participate in the planned actions.</p> <p>The responsible agencies and owners actively participate in and promote the initiatives.</p> <p>The responsible agencies and owners actively participate in and promote the initiatives.</p>
<p>2.3 PROTECTION AND RESTORATION OF WATER QUALITY: Restoration of water quality in water courses along preestablished critical stretches, by implementing the following actions:</p> <p><b>P.43</b> Environmental cleanup of the Río Guadalquivir.</p> <p><b>P.44</b> Study for the environmental cleanup of water courses in the Bermejo Triangle.</p>	<p><b>P.43</b> Two waste water treatment systems (pilot plants) built in small rural towns; underground aquifer pollution control system created; and waste water monitoring plan drawn up.</p> <p><b>P.44</b> A study to assess pollution levels, their main causes, and proposed solutions for the environmental cleanup and sustainability of the waters of El Nueve and El Cinco gorges, the Río Grande de Tarija, and the Río Bermejo has been completed. The results to be attained are final versions of the analysis of the situation and the environmental cleanup plan.</p>	<p>Start: 10/year1 End: 12/year2</p> <p>Start: 01/year3 End: 09/year3</p>	<p>Final report on the work element. On-site inspection. Measurements of the quality of surface and ground water. Final report on the work element.</p>	<p>Tarija prefecture and the municipalities prioritize and implement the Río Guadalquivir cleanup project.</p>

### ACTIVITIES UNDER COMPONENT III: SUSTAINABLE DEVELOPMENT OF NATURAL RESOURCES

OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	START & END DATES	VERIFICATION METHODS	CRITICAL POINTS AND RISKS
------------	-----------------------------------	-------------------	----------------------	---------------------------

OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	START & END DATES	VERIFICATION METHODS	CRITICAL POINTS AND RISKS
<p>3.1 PROGRAMMING AND PLANNING: Regional policies, procedures, and capabilities for programming and planning to be developed and strengthened, by means of: <b>P.53</b> Program for the integrated management of water resources in the Río Bermejo Basin.</p>	<p><b>P.53.</b> (a) Program for the integrated management of water resources has been drawn up, integrating development initiatives in the context of preventing erosion and sediment transport, water quality degradation and conserving nature. (b) Activities vis-à-vis the coordination and administration of the project, follow-up and oversight of contracts have been carried out, including the creation of a basic technical team.</p>	<p>Start: 01/year1 End: 12/year4</p>	<ul style="list-style-type: none"> <li>- Final report on the work element.</li> <li>- Minutes of the meetings of the Regional Coordinating Commission.</li> <li>- Reports from meetings and workshops with stakeholders and the community.</li> </ul>	<ul style="list-style-type: none"> <li>- The individuals and agencies involved fully participate in the planning processes and accept them.</li> </ul>
<p>3.2 SUSTAINABLE MANAGEMENT PRACTICES FOR THE REHABILITATION OF DEGRADED AREAS: Sustainable practices for productive development to be implemented and disseminated, thus helping mitigate the environmental problems that arise from the degradation of forests and soils as a result of human activity. The following actions are to be carried out: <b>P.62</b> Alternatives for the sustainable management of natural resources in the Humid and Semihumid Chaco.  <b>P.70</b> Diversification of sustainable production practices in the Yungas.</p>	<p><b>P.62.</b> Sustainable resource management practices disseminated among and adopted by producers, covering: the recovery of degraded environments in the lower basin; the handling of forage in humid and semihumid areas; the productive recovery of <i>vinalares</i>; the management of agricultural, sylvicultural, and pastureland potential in subtropical areas; the management and conservation of soils; and the agronomic management of water shortages and surpluses.</p> <p><b>P.70.</b> (a) Productive systems based on the sustainable use of natural resources have been implemented in the communities of Victoria and Orán, including the development and diversification of small-scale cash crops, forestry usage, management of woods and pastureland, and the development of small-scale industries and artisanship. (b) The quality of life among local populations has improved, and environmental degradation has been reduced.</p>	<p>Start: 07/year1 End: 06/year4  Start: 07/year1 End: 06/year4</p>	<ul style="list-style-type: none"> <li>- Progress reports and final report on the work element.</li> <li>- Systematic measurements of biogeophysical indicators and economic and financial indicators.</li> <li>- Reports from meetings and workshops with producers and the community.</li> <li>- Progress reports and final report on the work element.</li> <li>- On-site inspection.</li> <li>- Survey of participating families.</li> <li>- Assessment of improvements in the communities' living standards and income levels.</li> </ul>	<ul style="list-style-type: none"> <li>- Local owners and communities participate in and adopt the programmed actions.</li> <li>- No exceptional meteorological events take place.</li> <li>- Local owners and communities participate in and adopt the programmed actions.</li> </ul>
<p>3.3 TRADITIONAL COMMUNITY SUBSISTENCE PRACTICES BASED ON FARMING AND FISHING: Traditional water and natural resource management practices to be validated and extended into communities with subsistence economies. The actions comprising this activity are the following: <b>P.72</b> Traditional management practices for water and natural resources. <b>P.133</b> Sustainable rural development for indigenous and native communities.</p>	<p><b>P.72.</b> (a) Traditional culture has been surveyed and assessed vis-à-vis the management of water and other natural resources in subsistence communities. (b) Application in pilot demonstrations has been assessed. (c) A program of actions for promoting and applying the most appropriate traditional practices has been designed.</p> <p><b>P.133.</b> (a) Agricultural, sylvicultural, and pastureland systems are being managed sustainably by Wichi and native communities. (b) Standards of living in these subsistence communities have improved.</p>	<p>Start: 01/year2 End: 12/year3  Start: 01/year2 End: 06/year3</p>	<ul style="list-style-type: none"> <li>- Progress reports and final report on the work element.</li> <li>- Reports from meetings and workshops with the community.</li> <li>- Final report on the work element.</li> <li>- Survey of participating communities.</li> </ul>	<ul style="list-style-type: none"> <li>- Local communities participate in and accept the programmed actions.</li> <li>- Local communities participate in and accept the programmed actions.</li> </ul>
<p>3.4 SUSTAINABLE DEVELOPMENT OF</p>	<p><b>P.115.</b> (a) Technological packages for soil and water management</p>	<p>Start: 01/year2</p>	<ul style="list-style-type: none"> <li>- Final report on the work</li> </ul>	<ul style="list-style-type: none"> <li>- Local people</li> </ul>

OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	START & END DATES	VERIFICATION METHODS	CRITICAL POINTS AND RISKS
NATURAL RESOURCES: Sustainable use to be made of natural resources by means of the following action: <b>P.115</b> Systematization of land – areas under irrigation of the San Jacinto Project.	have been designed and implemented in the irrigated areas and marginal zones of the San Jacinto Project. (b) Soil and water use has been optimized. (c) Crop productivity has increased. (d) Erosion of farmland has been brought under control.	End: 12/year3	element. - Report from the San Jacinto Association. - On-site inspection.	participate in the project.. - The San Jacinto Association is involved in project execution.

#### ACTIVITIES UNDER COMPONENT IV: PUBLIC PARTICIPATION AND AWARENESS

OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	START & END DATES	VERIFICATION METHODS	CRITICAL POINTS AND RISKS
4.1 IMPLEMENTATION OF ENVIRONMENTAL EDUCATION PROGRAMS: Environmental education and awareness programs to be implemented as a key element in sustainable development, through the following strategic action: <b>P.129</b> Promotion of environmental education activities in the basin.	<b>P.129.</b> (a) Teachers, pupils, parents, and the community in general and pilot cases in particular have been trained in and made aware of the need for conservation and sustainable management of natural resources in general and water resources in particular (b) Progress has been made in making native communities aware of sustainable forest management.	Start: 07/year1 End: 06/year4	- Progress reports and final report on the work element. - Surveys and assessments of teachers, pupils, and the community. - Reports from workshops, meetings, courses, and training modules.	The educational institutions, civil society organizations, and the community understand and actively participate in the project.
4.2 PUBLIC PARTICIPATION PROGRAM: Public participation in environmental management to be promoted and strengthened, by means of information, environmental education, and the establishment of appropriate mechanisms for public consultation and participation. The strategic action to be executed is the following: <b>P.126</b> Public participation program.	<b>P.126.</b> (a) Public participation actions and system have been designed and implemented, involving the population in management and decision-making processes through workshops, meetings, enquiries, surveys, webpages, discussion forums, etc. (b) Procedures and guidelines for consultation and public participation have been drawn up, promoted, and launched. (c) Promotion of citizen participation as a working method included for the implementation of the SAP's projects.	Start: 07/year1 End: 12/year4	- Progress reports and final report on the work element. - Reports from workshops and meetings.	The public institutions, nongovernmental organizations, and civil society respond adequately to the public participation processes.
4.3 CREATION OF AN INFORMATION SYSTEM FOR THE BASIN: Environmental information and monitoring system in the basin to be created and brought on line, as a mechanism for supplying information about water and natural resources to the basin's social stakeholders. The following strategic actions will be implemented: <b>P.136</b> Mechanisms to access information for participation. <b>P.5</b> Development of networks and interconnections among the different economic sectors and district authorities. <b>P.6</b> Environmental information and monitoring system for the Río Bermejo Basin.	<b>P.136.</b> a) Appropriate mechanisms for access to information by civil society have been identified. (b) Technical, institutional, and legal evaluation for their implementation has been carried out, based on the results of selected pilot projects. (c) Recommendations on implementation strategies have been drawn up.  <b>P.5.</b> Networks and other sectoral and district interconnection mechanisms have been designed, developed, and put into operation, as an instrument for coordinating sustainable management actions among the different sectors and different district authorities in the basin.  <b>P.6.</b> (a) An integrated, geo-referenced environmental information system covering the basin's environmental variables has been designed, established, and put into operation. (b) The following components have been launched: hydrometeorology and sedimentology, water quality monitoring, follow-up and assessment of water quality and usage, biodiversity, legal and institutional information, socioeconomic indicators, human and institutional	Start: 01/year3 End: 06/year4  Start: 07/year1 End: 12/year4  Start: 07/year1 End: 12/year4	- Progress reports and final report on the work element.  - Progress reports and final report on the work element. - Reports from meetings and workshops.  - Progress reports and final report on the work element.	- The individuals and institutions involved in managing the basin's water and other natural resources fully participate in and accept the information systems being introduced. - The agencies and institutions that generate and supply information participate actively in the system, keeping their commitments to information flows and quality.



OBJECTIVES	OBJECTIVELY VERIFIABLE INDICATORS	START & END DATES	VERIFICATION METHODS	CRITICAL POINTS AND RISKS
	resources, documentation center, guides and technological guidelines for information.			

## ANNEX III

### Reviews and responses: STAP Roster Technical Review and response, GEF Secretariat review and response, World bank Review and response, and France review and response.

#### **I. STAP review and Response**

##### **STAP ROSTER Technical Review GEF Project: Implementation of the Strategic Action Program for the Bermejo River Binational Basin By W.D Williams Professor emeritus Adelaide University - Australia**

#### **Introduction**

- This review responds to a request from UNEP to provide a technical review of the *Implementation of the Strategic Action Program for the Bermejo River Binational Basin*.
- In responding, I note that I provided a review of the UNEP/OAS Bermejo River Proposal in April 1996. This review gave me some initial familiarity with this important program.
- I further note that I am a designated expert for the STAP Roster of Experts with particular experience and knowledge concerning dryland (arid and semi-arid) regions. Of direct relevance has been my chairmanship of the Research Advisory Committee of the Murray-Darling Freshwater Research Centre and my membership (as the Independent Scientist appointed by the Government) of the Barwon-Darling River Management Committee. Both the Barwon-Darling and Murray rivers are Australian river systems with considerable similarity to the Bermejo River Basin.
- In preparing the review, I have had available and read with care the following documents:
  1. The full text of the Final Draft for the Strategic Action Program for the Binational Bermejo River Basin (51pp).
  2. A summary document describing the project, rationale and objectives, project components and expected results, risks and sustainability, stakeholder participation and implementation arrangements, and costs and financing (22pp).
  3. Annexes A, B, E, F, G, H &I.

4. Annexes I (Work Program elements, 4pp), II (Basin Environmental Data, 48pp), III (Determination of Ecological Regions), 17pp), IV (Environmental Zoning, 6pp) and V (Quantification and location of Environmental problems, 8pp).
  5. Annex I (lists of Government agencies, Non-governmental organizations, other participant organizations).
  6. Annex IV (Summary of Strategic Priority Actions proposed in the Strategic Action Plan: scope and location).
- In preparing the technical review, I have also had available the documents detailed in my previous (1996) review as well as material made available to me at the Second World Water Forum (The Hague, March 2000) where water development projects in South America were discussed. Of particular interest are (1) *Executive Summary March 2000. Strategic Action Program for the Bermejo Binational River Basin* (19pp), and (2) *Water for the 21<sup>st</sup> Century: Vision to Action (South America)* (78pp).
  - The brevity of this technical report does not reflect the perceived importance of the Project.

### **Scope of the Review**

In the interests of standardization, and as requested, the review addresses, *seriatim*, issues outlined in the terms of reference.

- *Key issue 1. Scientific and technical soundness of the project.* Overall, the project is scientifically and technically sound in those areas in which I am professionally competent to judge. Of some concern, however, is the lack of information on the biodiversity resources of the region (acknowledged in the report itself), and the paucity of planned comprehensive investigations to obtain this information. Also lacking are explicit guidelines on how to monitor the extent to which biodiversity will be affected by the implementation of the Bermejo River Binational project, and how sustainability is to be judged as effective. Moreover, although salinisation is already a problem in certain catchments of the basin, it seems likely that its extent will expand. Salinisation has become a major problem in dryland regions which have been developed - especially when irrigation is part of the development. It would be advisable to put in place procedures to monitor and manage salinisation before it has an effect since such effects are often irreversible and significantly degrade habitats affected. The final document makes no reference to such procedures although frequent reference is made to the associated phenomenon, erosion.

- *Key issue 2. Identification of global environmental benefits and/or drawbacks of the project.* A major benefit of the program is that development will proceed predicated on the concept of environmental sustainability rather than, as is usually the case, on *ad hoc* concepts of local benefit irrespective of wider and longer term environmental responsibilities. Since no part of the biosphere is an independent entity, the global implications are obvious. The major drawback is that, faced with the inevitable growth of local populations in the area and the need to upgrade their living conditions, yet further changes to the natural environment will occur; that is, the project remains focussed on development - albeit sustainable development - rather than on restoration and rehabilitation of already degraded environments within a steady state local population.
- *Key issue 3. How the project fits within the context of the goals of GEF.* In so far as the goals of the GEF are “to help developing nations and countries with economies in transition assess and determine priorities among their international water problems, find ways to work together, and take concerted action to overcome those problems” [The role of the Global Environmental Facility in *GEF Projects related to Water Resources*. The Hague, March 2000], the Bermejo River Basin project is in accord with GEF goals.
- *Key issue 4. Regional context.* The project comprehensively addresses key regional issues.
- *Key issue 5. Replicability.* None of the issues involved in the Bermejo River Basin project is unique to the region: all issues, in one form or another, occur elsewhere. And certainly the central issue of how to develop water resources in a sustainable way is the core issue throughout the world. Thus, problems, resolutions and issues dealt with by the Bermejo River Basin project are for the most part transferable (either directly or indirectly) to all river basins in developing countries attempting to develop their water resources. In this context, reference is made to “*Towards Sustainable River Basin Management: Recommendations and Guidelines on Best Management Practices*” Anon (2000), The Hague.
- *Key issue 6. Sustainability of the project.* [This is taken to mean: is the development proposed likely to be environmentally sustainable?] It is clear that the proponents of the project are keenly aware that **the principal risk in the project is that environmental considerations will not be adequately incorporated into projects, programs, policies and activities in the manner needed to ensure sustainability** (page 49 of final draft document). This clear sighted awareness provides considerable optimism that the project will be

implemented in a way which ensures that environmental considerations **will** be adequately taken account of. If the project is implemented as planned, it is likely to be environmentally sustainable.

- *Key issue 7. Targeted Research Projects.* It is not clear if any of the identified research projects will specifically address improved definition and implementation of GEF strategies and policies. More details are required to respond to this issue.
- *Secondary issue 1. Linkage to other focal areas.* It is clear from documentation provided by the Ministerio de Infraestructura y Vivendi (Subsecretario de Recursos Hidricos) and available to me that the Bermejo River Basin project is linked to other water development projects in Argentina. At the bilateral level, Argentina and Bolivia formed a Bipartite Subcommittee for the Use of the Resources of the Upper Basin of the Bermejo River and Rio Grande de Tarija in 1992. More recently, Argentina founded the Bermejo River Regional Commission (COREBE) which has surveyed the basin's resources, with particular reference to regulation in the upper reaches of the river, sediment control, environmental impact assessment and sediment movement.
- *Secondary issue 2. Linkages to other proposals.* See above.
- *Secondary issue 3. Other beneficial or damaging environmental effects.* In addition to the general benefits outlined in *Key issue 2* (see above), there are several particular benefits that are likely to accrue if the project is fully and properly implemented. Not the least of these will be an increase in knowledge concerning the biodiversity resources of the region itself (already acknowledged as inadequate), an increase in the environmental awareness of the local human population, and, perhaps, once the benefits of sustainable development become more widely recognized, the spread to other river basins of policies, structures and processes used in the Bermejo River Project. With regard to damaging environmental effects, mention is again made of salinisation as a possible issue and threat. The threat of salinisation has been grossly underestimated in past water resource developments, with considerable cost to the environments involved. Once damaged by salinisation, catchment 'health' is difficult if not impossible to restore.
- *Secondary issue 4. Degree of involvement of stakeholders in the project.* Wide-ranging plans are presented which indicate that considerable effort will be made to involve stakeholders at all stages in the implementation of the project. Experience indicates that such involvement is both necessary for the success of projects of this

sort and has a wider integrative social function (it provides a mechanism for social cohesion).

- *Secondary issue 5. Capacity building aspects.* Although the final draft indicates that some attention is to be given to capacity building, the relatively low budget allocated to this issue (and the lack of explicit plans) suggests that suitable staff and support personnel to educate the local population and, indeed, to ensure that development will be undertaken in a sustainable way, will be either too few, too poorly trained, or both. This is identified as an important risk (page 50). **Particular attention should be paid to the need to have available adequately trained staff to manage and monitor the project and educate the local population and stakeholders.** The project overall will succeed or fail on the basis of the caliber of those responsible for its implementation.
- *Secondary issue 6. Innovativeness.* The issues and problems related to the development of river basins worldwide are to a considerable extent specific or unique to the basin involved by virtue of differences in history, climate, social context and biogeography. All river basin development projects, therefore, can be seen to be innovative to some extent: all break new ground and need innovative and original management approaches. An additional factor in the present project, however, is its comprehensiveness and the range of issues to be considered.

### **General conclusions**

In agreement with the first report on this project (1996), the present technical review provides further approval of both the over-arching objectives of the project and their rationale. It also offers approval of the proposed implementation of the project.

## **RESPONSE TO THE STAP REVIEWER'S COMMENTS.**

In general, the comments of Prof. W. D. Williams are quite supportive of this project, which initiates the implementation of the Strategic Action Plan (SAP) for the Bermejo River Basin. Notwithstanding, Prof. Williams has indicated some issues that, in his opinion, require further consideration in the formulation of this project. The following paragraphs provide a detailed response to the principal queries raised by Prof. Williams; no response is provided to those issues, identified by Prof. Williams, as being adequately addressed by the current project brief.

### **Key Issue 1: Biodiversity:**

The Transboundary Diagnostic Analysis (TDA) identified the loss of biodiversity and the need for the protection of biodiversity as one of the six main problems identified in the Bermejo River Basin. Information on biodiversity and biotic resources in the region are set forth in the TDA. Actions addressing the root causes underlying biodiversity problems have been incorporated into the SAP and selected priority issues form part of the present project. These actions emanate from the survey of environmental and developmental projects and initiatives carried out as a part of the SAP formulation process. Over 120 proposals in the field of Nature Conservation and Biodiversity Protection (103 provincial, 6 national, 9 private, and 3 international) were submitted during the SAP formulation process.

Because the primary objective of the Bermejo Project is "Integrated Water and Land Management", nature conservation, including biodiversity protection, forms a substantial part of this project, not only addressing the GEF policy of encouraging cross-sectoral issues within the GEF focal areas, but also aiming at strengthening preventive actions within non-degraded, vegetated landscapes in areas prone to erosion and mass removal movements in the upper basin. These actions seek to control and mitigate sediment production and transport, which is the main transboundary problem facing the entire Bermejo Basin. Activities to be undertaken through this project include the consolidation of protected areas in order to preserve the natural landscape in critical erosion prone areas, the establishment of buffer zones and biological corridors, the initiation of alternative sustainable management practices in the Montane and remaining piedmont forests. These measures not only address water management issues but also enhance nature conservation and biodiversity protection.

With respect to monitoring the degradation of biodiversity in the Basin, the SAP seeks to develop an environmental information system designed to monitor selected indicators related to land use, deforestation, and habitat loss or degradation. The GIS

environment that will support this information system is already in place as a subproduct of the SAP formulation project.

Furthermore, the SAP will provide the basis for coordination of ongoing and future national and regional programs, some of which are being funded by the GEF and address the biodiversity issue. For instance, GEF-UNDP ARG96/G31 led to the formulation of a National Biodiversity Strategy for Argentina during the period between 1996 and 1998. Some of the key activities identified in this program were incorporated into the SAP. Similarly, the ongoing GEF-WB Project on Bio diversity Conservation, being executed by the National Parks Administration of Argentina, has a component on biodiversity information management that will be linked to this project. These activities, being conducted in Argentina, have equivalent undertakings in Bolivia.

Thus, the implementation of the SAP inherently and explicitly includes and incorporates specific actions related to biodiversity information and protection, nature and habitat conservation, and coordination between regional and national activities in these fields.

**Salinization:**

Although currently not viewed as an issue of concern within the Bermejo River Basin, the TDA did identify salinization as a relevant, currently localized and potentially widespread, issue in many areas of Bermejo Basin. The TDA also evaluated its geographic distribution and intensity. This evaluation was based on soil type (soil mapping being an element within the GIS database), the best professional judgement of local and regional experts, analysis of various layers within the digital thematic cartographic data base, satellite imagery, and bibliographic reviews. Water quality monitoring also provided insight into salinization problems and risks associated with water use. As a consequence measures have been considered in the SAP to address the root causes that may enhance or trigger salinization problems. These causes include land usage and the failure of past environmental zoning, development and extension of inappropriate agricultural practices, lack of effective monitoring and information dissemination mechanisms (e.g., an environmental information system), the paucity of local capacities, and poor public awareness, participation and involvement in decision making at the local and regional levels. As rightly pointed out by Prof. Williams, sound land management (erosion control) will have beneficial effects on soil loss as well as on other soil problems. Component II of the project extends and implements feasible measures for erosion control, especially in the Upper Bermejo River Basin, that were identified and proven to be effective during SAP formulation, in order to promote greater use of soil management practices that minimize degradation through erosion and salinization, and the risk of destabilization.



### **Key Issue 7: Targeted Research**

The SAP, both as a whole as well as in terms of its objectives, components and activities, addresses the effective implementation of GEF strategies and policies. Support to research activities, consistent with SAP priorities, is embodied both directly as specific academic activities and embedded in pilot demonstration projects, or indirectly through strengthening capacities and enhancing cooperation amongst research institutions, governmental agencies, nongovernmental organizations (NGOs), and the private sector, within the current project's component activities.

### **Secondary Issue 5: Capacity Building**

Of the four major components of the SAP, one is devoted to enhancing and encouraging public awareness and participation. A major part of the activities and projects included within this Component deal with education, access to information, and participation of stakeholders in decision-making with the aim of enhancing awareness and involvement, as well as strengthening capacities to participate at all levels.

Component I is specifically devoted to institutional strengthening, involving both binational and regional bodies, including the provincial and prefectural organizations which participate in them as well as representative organizations of the civil society and the private sector. In particular, specific project elements seek to increase the technical and managerial capabilities of the organizations and their staff that will integrate regional governmental and nongovernmental bodies in a manner that will enable them to collectively steer, coordinate, and monitor the next implementation phase. Further, most of the SAP projects in each of the four components, in considering community-based participation and extension activities, contribute to strengthening institutional and local community capacities to implement and maintain the programs initiated within the context of the SAP.

Thus, a significant share of the total SAP budget is directly or indirectly allocated to capacity building, and, hence, to ensuring the continuity and success of the actions to be set into motion as a result of the conduct of this project.

**II. GEF review response**

**PROJECT REVIEW SHEET**  
**Work Program Inclusion - UNEP International Waters**

**Project Title:** “Implementation of the Strategic Action Programme for the Bermejo River Binational Basin” Argentina/Bolivia.  
**Date:** September 5, 2000

	<b>Work Program Inclusion per criteria established in Draft # 8 of the project review criteria</b>	<b>Reference Paragraphs and Explanatory Notes:</b>
<b>1. Country Ownership</b>		
• Country Eligibility		• Countries are eligible under paragraph 9b of the GEF Instrument – see cover page
• Country Drivenness	Clear description of Project’s fit within: <ul style="list-style-type: none"> <li>• National reports/communications to Conventions</li> <li>• National or sector development plans.</li> <li>• Recommendations of appropriate regional intergovernmental meetings or agreements.</li> </ul>	<ul style="list-style-type: none"> <li>• National and regional priorities were identified in the Transboundary Diagnostic Analysis &amp; the Strategic Action Programme which were reviewed and later on endorsed during a series of public and stakeholders meetings held between Dec. 95 and Dec 99</li> <li>• Project brief was also reviewed and endorsed during a series of public and stakeholders, and steering committee meetings held this year.</li> <li>• Para 1, and 5 through 8 describe the national programming context</li> </ul>
• Endorsement	• Endorsement by national operational focal points	• See cover page & Annex IV
<b>2. Program &amp; Policy Conformity</b>		
• Program Designation & Conformity	Describe how project objectives are consistent with Operational Program objectives or operational criteria	• Consistency of project objectives with Operational Programme 9 is described in para 4
• Project Design	Describe: <ul style="list-style-type: none"> <li>• Sector issues, root causes, threats, barriers etc affecting global environment</li> <li>• Project logical framework, including a consistent strategy, goals, objectives, outputs inputs/activities, measurable performance indicators, risks and assumptions</li> </ul>	• Discussion on root causes, threats,... were the subject of the Transboundary Diagnostic Analysis produced during the SAP formulation phase. A summary of the analysis can be found in para 6 of the Brief and in Annex V. The complete TDA is

	<b>Work Program Inclusion per criteria established in Draft # 8 of the project review criteria</b>	<b>Reference Paragraphs and Explanatory Notes:</b>
	<ul style="list-style-type: none"> <li>• Detailed description of goals, objectives, outputs and related assumptions, risks and performance indicators</li> <li>• Brief description of project activities, including an explanation how the activities would result in project outputs</li> <li>• Global environmental benefits of the project.</li> <li>• Incremental cost estimation based on the project logical framework               <ul style="list-style-type: none"> <li>• Describe project outputs (and related activities &amp; costs) that result in global environmental benefits</li> <li>• Describe project outputs (and related activities &amp; costs) that result in global and national environmental benefits</li> <li>• Describe project outputs (and related activities &amp; costs) that result in national environmental benefits</li> <li>• Describe the process used to jointly estimate incremental cost with in-country project partner</li> <li>• Present the incremental cost estimate. If presented as a range, then a brief explanation of the challenges and constraints and how these would be addressed by the time of CEO endorsement.</li> </ul> </li> </ul>	<p>available upon request.</p> <ul style="list-style-type: none"> <li>• A complete project logical Framework is presented in Annex II. Discussion on risk and sustainability is presented in para 13 to 17 of the Brief</li> <li>• Description of project objectives, activities, outputs, is presented in para 18 to 39 of the Brief. Detailed information can be found in Annex IX</li> <li>• The Bermejo river is the major river spanning the Chaco and thus contributes the largest mass of Andean sediment to the Plata River System. The origin and the behavior of the sediment dramatically conditions water uses in the Bermejo and the Plata system. Activities to control erosion and address land degradation in the Bermejo basin will contribute to the achievement of global benefits embodied in the mitigation of transboundary environmental problems.</li> <li>• A complete incremental cost analysis is presented in Annex I. A summary of the discussion is presented in para 46 and table 2 and 3 of the Brief.</li> </ul>
<ul style="list-style-type: none"> <li>• Sustainability (including financial sustainability)</li> </ul>	<p>Describe proposed approach to address factors influencing sustainability, within and/or outside the project to deal with these factors</p>	<p>Paras 13 to 17 of the Brief, discuss the risk and sustainability per se. Various mechanisms to ensure long-term sustainability of actions and measures undertaken under this proposed project are described in the activity section of the brief that is para 22 through 39 and in particular in para 32 fifth bullet which intends to secure financial support for the SAP through donor round tables, and para 36 which presents actions to share experiences and promote international</p>

	<b>Work Program Inclusion per criteria established in Draft # 8 of the project review criteria</b>	<b>Reference Paragraphs and Explanatory Notes:</b>
		<p>and regional cooperation seeking for mechanisms that will enhance synergies at the Plata Basin level. See also para 17 and 50 which discuss the creation and role of an inter-ministerial committee that will help ensure even greater sustainability of project results. Detailed information can also be found in Annex II</p>
<ul style="list-style-type: none"> <li>• Replicability</li> </ul>	<p>Describe the proposed approach to replication (for e.g. dissemination of lessons, training workshops, information exchange, national and regional forum etc.) (could be within project description)</p>	<p>Component IV of the Brief (para 36-39) discusses replicability as well as public awareness and information dissemination. Access to information at all level of the society is recognized as an essential part of the process of encouraging local stakeholders to take an interest in sound management of the basin's natural resources. Thus, the central theme of this component will be to inform the citizenry of the basin as well as areas with similar problems within the Plata basin through an integrated programme of environmental education, institutional transparency, and information exchange among communities, organizations and government entities. Workshops and technical seminars are planned with other riparian countries of the Plata basin. Overall, this project proposal also aims at replicating those practices and measures that proved to be successful throughout the basin. Annex IX provides detailed explanation on activities to be carried out.</p>
<ul style="list-style-type: none"> <li>• Stakeholder Involvement</li> </ul>	<ul style="list-style-type: none"> <li>• Describe how stakeholders have been involved in project development</li> <li>• Describe the approach for stakeholder involvement in further project development and implementation</li> </ul>	<p>Stakeholder participation and implementation arrangements are described in para 40 to 43 of the Brief. Annex VI of the Brief presents a public involvement plan which summarizes the agencies involved in the project preparation and likely to be involved in the execution of the</p>

	<b>Work Program Inclusion per criteria established in Draft # 8 of the project review criteria</b>	<b>Reference Paragraphs and Explanatory Notes:</b>
		project.
<ul style="list-style-type: none"> <li>Monitoring &amp; Evaluation</li> </ul>	<ul style="list-style-type: none"> <li>Describe how project design has incorporated lessons from similar projects in the past</li> <li>Describe approach for project M&amp;E system, based on the project logical framework, including the following elements: <ul style="list-style-type: none"> <li>Specifications of indicators for objectives and outputs, including alternate benchmarks, and means of measurement.</li> <li>Outline organisational arrangement for implementing M&amp;E</li> <li>Indicative total cost of M&amp;E (may be reflected in total project cost).</li> </ul> </li> </ul>	<p>Monitoring, evaluation and dissemination issues are discussed in para 59 and 44 &amp; 45 of the brief.</p> <p>Page 17 to 19 of the project Brief and Annex IX presents a detailed project workprogramme which will be further refined for endorsement at the first Steering Committee Meeting. Annex II constitutes as well an element of the M&amp;E plan. Based on Annex II and IX, it is anticipated that a specific M&amp;E plan will be prepared at the inception of the project implementation and approved by the first Steering Committee meeting.</p> <p>Under component IV (para 36), a specific activity with a budget of US\$ 100,000 is planned to look at the definition and adoption of process, stress-reduction and environmental status indicators.</p> <p>Other Monitoring and Evaluation costs are built into the IA agency fee.</p>
<b>3. Financing</b>		
<ul style="list-style-type: none"> <li>Financing Plan</li> </ul>	<ul style="list-style-type: none"> <li>Estimate total project cost.</li> <li>Estimate contribution by financing partners.</li> <li>Propose type of financing instrument</li> </ul>	<ul style="list-style-type: none"> <li>Total project cost = US\$ 19.77 M</li> <li>Co-financing = US\$ 8.73 M</li> <li>GEF cost = US\$ 11.04 M</li> <li>Associated financing = US\$ 530 M</li> <li>Annex VIII provides additional detailed information on the co-financing</li> <li>Costing by activity and sub-activity is presented in the brief component by component in para 26, 31, 35, and 38. Details are presented in Annex IX.</li> <li>Summary of the project financing is presented in para 46 and table 2 and 3 of the</li> </ul>

	<b>Work Program Inclusion per criteria established in Draft # 8 of the project review criteria</b>	<b>Reference Paragraphs and Explanatory Notes:</b>
		<p>Brief</p> <ul style="list-style-type: none"> <li>Table 3 of Annex I (Incremental Cost) is presenting the schedule of expenditures</li> </ul>
Implementing Agency Fees	Propose IA fee	Standard fee plus premium of US\$70,000 due to the multi-country nature of the project, the high cost of travel from Nairobi to Southern America, additional cost for a mid-term evaluation, and the duration (4.5) of the project. At the time of submission (Sept. 2000), a formal request was officially sent under a separate cover..
<ul style="list-style-type: none"> <li>Cost-effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>Estimate cost effectiveness, if feasible</li> <li>Describe alternate project approaches considered and discarded</li> </ul>	A quantitative assessment of cost effectiveness has not been attempted. However, the report of the evaluation of the “previous phase” that is the SAP formulation mentions that the most cost effective approach is that of the short-term SAP implementation i.e. the submitted proposal.
<b>4. Institutional Coordination &amp; Support</b>		
<b>IA Coordination and Support</b> <ul style="list-style-type: none"> <li>Core commitments &amp; Linkages</li> </ul>	<p>0 Describe how the proposed project is located within the IA’s</p> <ul style="list-style-type: none"> <li>Country regional/global/sector programs</li> <li>GEF activities with potential influence on the proposed project (design &amp; implementation)</li> </ul>	<ul style="list-style-type: none"> <li>Linkage to IA’S programme is outlined in Para 10 of the Brief.</li> <li>GEF activities with potential influence on the proposed project are described in Para 9 of the Brief, which is outlining the complementary interventions.</li> </ul>
<ul style="list-style-type: none"> <li>Consultation, Coordination and Collaboration between IAs, and IAs and EAs, if appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>Describe how the proposed project relates to activities of other IAs and 4 RDBs in the country/region.</li> <li>Describe planned/agreed coordination, collaboration between IAs in project implementation.</li> </ul>	As mentioned above, as it is intended to replicate the Bermejo experience to other areas of the Plata Basin with similar conditions, collaboration with other IA is anticipated. Further, complementary activities are being conducted, or are proposed to be conducted, with funds provided by the World Bank, the Inter-American Development Bank,.. and through bilateral agreements. Integration of these activities within the regional planning context created by the Bermejo SAP will provide opportunities for further involvement and coordination of investments within the

	<b>Work Program Inclusion per criteria established in Draft # 8 of the project review criteria</b>	<b>Reference Paragraphs and Explanatory Notes:</b>
		<p>framework of this project.,</p> <p>While these programmes and activities are independent of the GEF financed initiatives, the Technical Coordinators at the Binational Commission will endeavor to integrate and coordinate activities.</p> <p>Specific collaboration with the IDB for the organization of donor roundtables for SAP activities buy-in, is described in para 32 fifth bullet.</p> <p>The institutional arrangement is also described in para 49-58 and the subsequent project organigram. See also para 21 and 32.</p>
<b>5. Response to Reviews</b>		
Council	Respond to Council comments at pipeline entry	See below
Convention Secretariat	Respond to comments from Convention Secretariat.	N.A
GEF Secretariat	Respond to comments from GEFSEC on draft project brief.	Comments from GEF SEC have been addressed in this new version of the Brief inter alia in para 7,8, 18, 23, 32, 36, 16, 49, 50, and in the revised Annex VIII and IX. A detailed response is being presented in Annexure 1 hereafter.
Other IAs and 4 RDBs	Respond to comments from other IAs, 4RDBs on draft project brief.	Comments not received (WB provided comments on concept – see below response)
<b>STAP</b>	Respond to comments by STAP at work program inclusion.	Comments not received
Review by expert from STAP Roster	Respond to review by expert from STAP roster	Comments provided by the STAP expert were addressed in Annex III and referred to in para 44 of the Brief.

## Annexure I:

### Response to GEF Sec's comments presented at 13 July 2000 Bilateral meeting which adjourned work programme inclusion pending re-submission of a revised text.

#### 1. Replicability

This new phase of GEF programming in the Bermejo basin will ensure the replication of those practices and measures that have been demonstrated to be successful throughout the Basin and throughout the Plata River Basin in areas with similar conditions. In so doing, the project can continue to refine and demonstrate the means for, and benefits of, country ownership and community participation in river basin management.

Component IV (para 27) will address specifically this issue of replication of the methodological approach, findings, and recommendations of the Bermejo project to areas with similar problems within the Plata basin, in order to contribute to the promotion of a larger-scale and basin-wide strategic framework to address main environmental degradation processes, the identification of critical transboundary issues, and the definition of priority actions at the national and multinational level. This will be done *inter alia* by means of seminars, workshops, and information dissemination through various media. For these activities in the Plata River Basin, the Binational Commission, through the Ministries of Foreign Affairs of both countries, will coordinate actions with the Intergovernmental Committee of the Plata River Basin (CIC) and with other bilateral or multilateral basin organizations, such as the Pilcomayo Trinational Commission. The amount allocated for this activity is US\$850,000 with US\$700,000 from the GEF. Detailed information about this activity is presented in Annex IX (page IX-21).

#### 2. Sustainability

To ensure sustainability of the Project's results, both countries have taken steps to create an **Inter-ministerial Committee**, which will help mobilize support for the investments identified, and catalyze the translation of project findings and recommendations into policy, institutional, and legal reforms at the country level. The members of the Committee will be established by the respective governments and will include, among others, ministerial representatives from the areas of economy/finance, water resources, environment, health, sanitation, culture, and tourism, who will participate as observers in the meetings of the Regional Coordination Committee. (see para 34 of the brief). The inter-ministerial committee



will work jointly with the Regional Coordinating Committee, composed of representatives of the provincial administrations of Argentina and the Prefecture and Municipality of Tarija in Bolivia, in the general supervision of project activities and will seek incorporation of project findings and recommendations into the institutional and legal frameworks of the different jurisdictions. (See para 40 of the brief).

### **3. Development Banks involvement.**

As mentioned in Component III fifth bullet (para 23 of the brief), both governments have initiated actions at the national level with the Inter-American Development Bank, as lead agency in the organization and conduct of the donor meetings planned to be held in the region within the first year of project activities. Argentina has also initiated contacts with IFC.

Securing of financial support for the sustainable development of the Bermejo Basin will be done through donor roundtable meetings under the leadership of the IDB, co-executing agency for the project. Actions will be taken to help catalyze funding for the implementation of SAP project proposals, both those of immediate and long-term priority, as well as other complementary actions related to *inter alia* life quality improvement, poverty alleviation, health improvement, and the preservation of indigenous cultural heritage considered as important by both Governments for the sustainable development of the Binational basin. Specifically, donor roundtable meetings with representatives of local, regional, and international financing agencies will be convened to explore the possibilities of funds allocation to support development in the Bermejo basin. The total budget allocated for this activity is US\$350,000 with US\$300,000 being GEF funding. Detailed information can be found in Annex IX (page IX-16, activity 3.5).

### **4. Indicators**

Component IV (para 27 third bullet in the brief), will look at the definition and adoption of indicators by means of a series of 5 technical regional workshops, and will include (1) process indicators (focusing on the processes that will lead to desirable results), (2) stress-reduction indicators (focusing on actions with defined targets that will reduce the environmental stress on the water body), and (3) environmental status indicators (focusing on the actual improvement of the ecosystem quality). This activity is further described in Annex IX activity 4.3 fourth bullet on page IX-20. A budget of US\$100,000 entirely from GEF sources is allocated for this activity.

## **5. Others**

Finally, para 7 and 8 have been reworded to underline the emphasis placed in this project on the main transboundary problems that is erosion and sedimentation issues affecting the basin. Component I para 14 has also been reworded for the sake of clarity.

Annex VIII presenting the breakdown of the associate financing has been revised and is now limited to environmental/land issue aspects within the Basin. The reduced amount (US\$ 530 million) is also reflected on the cover page.

### **III. World Bank Concept Review and Response**

#### **COMMENTS FROM THE WORLD BANK ON UNEP'S CONCEPT PAPER ENTITLED "IMPLEMENTATION OF THE STRATEGIC ACTION PROGRAM FOR THE BERMEJO RIVER BINATIONAL BASIN"**

##### **GENERAL TECHNICAL ISSUES**

1. Are there concrete examples from the previous project's demonstration activities generating sustainable land-use models, and an incentive structure needed to get something going on a larger scale? Specifically, what kind of forestry, agricultural, and land use activities would people buy into and at what price?
2. What is the land ownership situation and what kinds of steps are necessary to bring the land under protection? If it is private land, how would that land be acquired? Would the area be made into National Parks or Provincial Parks? What is the history of Provincial Parks in those Provinces? Would institutional strengthening of the Provincial capacity to manage parks be proposed?
3. In considering recent economic developments and budgetary constraints in Argentina, has the figure of US\$884 million in Argentine co-financing been recently reconfirmed?

##### **GEF IA COORDINATION**

Based on the concept paper, we do not see any overlap with other WB/GEF financed activities in Argentina or Bolivia.

#### **RESPONSE TO WB COMMENTS ON UNEP'S CONCEPT PAPER ENTITLED "IMPLEMENTATION OF THE STRATEGIC ACTION PROGRAM FOR THE BERMEJO RIVER BINATIONAL BASIN"**

Overall, the comments of the World Bank are supportive of the implementation of the strategic action program for the Bermejo river binational basin. Specific response to WB's queries are provided herebelow.

##### **1. Land-Use models**

Several pilot demonstration projects showed the technical and financial viability of sustainable land-use practices. These were primarily designed, executed and assessed by the local communities. Their positive results in terms of soil loss prevention, biodiversity conservation, income generation potential, and community acceptance, make them viable strategies for replication on a larger scale. Some specific examples are:

- a) Forage management practices in Humid Chaco proved to be economically feasible (17% IRR), with private owners making minor investments for water-level control structures. Based upon this experience, a number of similar proposals were submitted during the

process of compiling local and regional initiatives for river basin protection and indicated widespread interest in the region for these types of measures. The SAP proposal includes a specific component to coordinate actions by government, technical agencies, and private owners, so as to extend the experiences and recommendations from the pilot demonstration project to a wider region of the Provinces of Chaco and Formosa.

- b) Sustainable practices in Yungas region, (regional craftsmanship, alternative crop production schemes, land-use management practices, and ecotourism activities to protect forest relicts and buffer zones) proved to be relevant strategies for biodiversity protection, while providing additional benefits in terms of income-generating potential for the native population and small farmers.
- c) Erosion and sediment control demonstration projects in the Tolomosa Watershed had two components: construction of small dikes for sediment retention, and promotion of agroforestry and sustainable farming practices for land and water conservation. Both activities demonstrated their technical and economical viability, particularly when linked to the protection of the San Jacinto Reservoir, the increased and sustained agricultural production of newly irrigated lands, and prevention/reduction of soil losses. Community extension programs aimed at increasing awareness and providing training to small farmers were pivotal in the success of this project, and are thus proposed to be replicated on a larger scale in the area.

## **2. Land-Ownership**

In general terms, no changes in property rights are being proposed as part of the SAP for creation and/or implementation of protected areas. Rather, and based on the findings and recommendations of the TDA, the SAP seeks to (1) strengthen provincial institutions in managing and monitoring their protected areas, (2) promote and provide training for the sustainable management of natural resources to private owners, and in some cases (3) propose restrictions on natural resource uses.

In the case of the Baritú-Tariquía Biological Corridor, the study proposes the establishment of a Reserve (not a national park), basically on the Bolivian side, given that the Baritú Park in Argentina extends to the border with Bolivia. Under the Reserve arrangement, proposed by the SAP, conservation practices and human activities would co-exist, with human activities conforming to regulations for the conservation of flora and fauna within the Reserve. The SAP introduces the necessary actions in relation to the legal framework, training and institutional strengthening for this purpose. It also proposes the direct participation of local farmers in the administration and management of the proposed Corridor. These farmers and small owners were consulted through a series of workshops and meetings in the region, and experiences gained as part of a demonstration project previously conducted suggest that landowners are willing to modify their land management practices to coexist with the Reserve.

Likewise, for the project "Implementation of ecotourism alternatives in the vicinities of (buffer zones) of National Parks of El Rey and Calilegua", the proposed project does not involve changes in property ownership. In El Rey, where all land included is privately owned, agreements have been signed between the National Park Administration and private owners so as to establish sustainable criteria for the management of their lands.

In another project, (related to the future Teuco National Park), the objectives for next phase

are to assess its potential for conservation, prepare an environmental zoning proposal, and provide specific recommendations for policies and strategies for its implementation. As in the case of the Baritu-Tariquia Corridor, experiences gained during the SAP formulation phase of the project indicate the likelihood of an high degree of success in establishing joint ventures between landowners and governmental agencies for the sustainable management of land resources in the basin.

### 3. **Budgetary Constraints in Argentina**

The US \$ 884 million figure results from the survey of plans and programs identified during the SAP formulation process. It takes into account existing commitments, at the time of the appraisal, by the Government, and includes planned investments at both the local and national governmental levels. In each case, the plans and programs had evolved beyond the concept stage and reflected programmed investments scheduled for implementation. Subsequently, the Bermejo River basin provinces have formally agreed with the measures adopted by the National Government to cope with the current fiscal deficit, following IMF guidelines. Under these guidelines, the national government will ensure a proper string of investments in the region to mitigate the budgetary constraints on the provincial economies imposed as a result of current budgetary constraints. Thus, it may be anticipated that to a large extent, most of the US \$ 884 million figure will be maintained and expended as programmed, even though the source of the funds may shift from provincial sources to federal sources.

#### **IV. France Review and Response**

**Comments from France on the “Regional (Argentina/Bolivia): Implementation of the Strategic Action Program for the Bermejo River Binational Basin (UNEP). GEF: US\$ 11.04 million; total US\$ 17.99 million”**

This project is the follow-up to an initial GEF-funded project which financed TDA-SAP preparation in the Bermejo River Basin. The project will provide financing for (I) specific pilot activities identified in the SAP with a view to their replication Basin-wide; (ii) institutional support to the two States; and (iii) a public awareness and participation campaign.

The highly operational nature of the project – which contrasts sharply with international waters projects limited to the TDA-SAP process – is commendable. However, the following observations are in order:

- Do UNEP and OAS have the mandate and capacity to implement the many pilot projects envisaged in the project brief?
- The development banks (IDB and the World Bank) are not “involved” in implementing the project, a situation that could severely limit replication of the pilot projects throughout the Basin.
- The large number of basin-wide pilot projects (there are nearly 20) will increase monitoring and implementation costs and will limit the project’s impact.
- Some of the institutional component objectives on harmonization of the legal and financial framework for the water sector in the two countries appear difficult to achieve. Such matters should be dealt with at the national level rather than in the context of a watershed that affects only a small percentage of the territory of the two nations.

Turning to a more general question, development banks should be directly involved in implementing Strategic Action Programs. As a number of speakers stated at the Budapest conference on the international waters window, substantial funds – often more than 100 times what the GEF can provide – are required for pollution control in marine and inland waters. Accordingly, the GEF should serve as a catalyst to engage the cooperation of development banks, since they have the capacity to mobilize the resources needed for such investments.

## **Response to the comments of France**

Overall, the comments of France are supportive of the implementation of the strategic action program for the Bermejo river binational basin. Specific response to France's queries/remarks are provided herebelow.

### **1. Role of UNEP and the OAS – Implementation arrangement**

As France is aware, the mandate of the United Nations Environment Programme (UNEP) is both global and regional in nature. In the latter respect, its mandate complements the regional mandate of the General Secretariat of the Organization of American States (OAS). Likewise, given the fact that the Bermejo River is a binational basin within the subregional drainage system of the Plata River basin, the regional mandates of both agencies provide an excellent “fit” insofar as project management and implementation is concerned. This “fit” is further strengthened by the fact that UNEP, as an implementing agency, has been working in the region in partnership with the OAS for many years, with the OAS having decades of previous experience prior to working with UNEP on GEF-funded projects.

Both UNEP and the OAS will support project execution. The OAS, due to its historic involvement in the Basin, traditional partnership with UNEP in similar projects within the region, and its role in implementing activities under related projects, will act as Executing Agency and manager of the funds provided to the project by UNEP on behalf of GEF. However, the countries themselves will be responsible for daily operations of the project. This institutional arrangement has proven extremely successful in previous projects, being not only consistent with the GEF philosophy of country-driven projects, but also an effective use of the human resources and institutional capacities of both institutions.

In addition, the organizational structure for the implementation of the SAP builds upon and improves that adopted during the formulation project, incorporating binational regional governmental and nongovernmental participatory bodies to provide for regional coordination and general project stewardship. Three functional levels of project management interventions are envisioned—binational, regional, and operational.

At the highest, binational level, the Binational Commission will be responsible for the execution of the project under the auspices of the Steering Committee. The Steering Committee will be composed of two representatives of the Binational Commission—one from Argentina and one from Bolivia, a representative from UNEP as the GEF

Implementing Agency, a representative of the OAS and Inter-American Development Bank (IDB) as GEF co-Executing Agencies<sup>2</sup>, and two representatives from the project executing units—the national directors of the project from Argentina and Bolivia. The Steering Committee will approve the work program, oversee technical and financial arrangements relating to the project, and generally manage the progress of the project at regularly scheduled meetings of the Committee.

Coordination of the project at the regional level will be provided through a Regional Coordinating Committee composed by representatives of the provincial administrations of Argentina, and the Prefecture and Municipality of Tarija of Bolivia. This Committee will provide coordination, program support, and general supervision of project activities within their jurisdictions, and ensure articulation of project concerns between and among governmental departments assigned to the management of the Bermejo Basin as well as encouraging public participation in project activities at the local level. In coordination and with the support of the Argentine Inter-ministerial Committee, the Regional Coordinating Committee will seek incorporation of project findings and recommendations into the institutional and legal frameworks of the different local governmental jurisdictions. In addition, a Regional Advisory Committee, composed of representatives of NGOs, academic institutions, scientific and technical organizations, the private sector, citizens, and corporations with interests in the management of the natural resources of the Bermejo basin, will contribute to the implementation of the project activities by encouraging public participation and providing coordination between nongovernmental organizations. The Regional Advisory Committee will also provide a conduit for public input to the project management.

At the operational level, within each country, two Project Executing Units will conduct the day-to-day operations of the project in close consultation with UNEP and OAS. A National Director will be responsible for exercising administrative oversight for the day-to-day implementation of project activities in each country. A Technical Coordinator, based in each country, will have the responsibility for the coordination and execution of project tasks, administering the financial and human resources required, refining and evaluating the outputs of the component activities of the project, preparing periodic financial and technical reports on project progress for the Steering Committee, and providing information on the progress and results of the project activities to interested parties. In addition to this administrative organization, it is envisioned that project activities will be carried out by community-based

---

<sup>2</sup> IDB in its capacity of co-Executing Agency being in charge of the organization of donor roundtables (see component III) will be integral part of the Steering Committee. Nevertheless, the GS/OAS remains the main Executing Agency and as such will be in charge of all project administrative matters.



entities—including governmental agencies, academic institutions, NGOs, and private enterprises (contractors and consultants)—who will execute specific portions of the activities set forth in the Work Program in accordance with their specific mandates and in cooperation with other interested parties and the general public under the guidance and direction of the National Director and Technical Coordinator. The National Director for each country will be confirmed at the first meeting of the Steering Committee. The Technical Coordinator for each country, to be contracted with GEF Funds by the OAS as the Executing Agency in consultation with UNEP, will also be confirmed at this inaugural meeting of the Steering Committee.

In this way, both UNEP and OAS will ensure adequate human and institutional resources are brought to bear in the execution of the Bermejo River Basin implementation project. At the same time, the intensive involvement of governments, NGOs, the private sector and citizens in the implementation of the project will enhance the likelihood that the project goals will not only be met, but also ensure that adequate human and institutional capacity remains within the basin to maintain the practices and project outputs into the future.

## **2. Involvement of development banks**

Bearing in mind (i) that the Strategic Action Programme for the Bermejo basin is quite an ambitious plan composed of 136 sub-projects for a total cost of US\$ 470 million, intended to be implemented over a period of 20 years, and (ii) that this project is designed to begin the process of implementing the developmental and environmental guidelines of the SAP that constitutes only a small part of the total program, extensive involvement by the development banks appears premature. Notwithstanding, the IDB will be involved in this phase of the project as co-executing agency in order to conduct donor roundtables with representatives of local, regional, and international financing agencies (e.g., EU, French GEF, and bilateral donors) to help catalyze funding for the full implementation of SAP proposals. These proposals include both immediate and long-term priority actions, as well as other complementary actions related to *inter alia* improvement of quality of life, poverty alleviation, health improvement, and the preservation of indigenous cultural heritage considered as important by both Governments for the sustainable development of the Binational basin. The proposed donor roundtables will be convened to explore the possibilities of funds allocation to support development throughout the Bermejo basin. The meetings are planned to be held in the region within the first year of project activities to ensure that funds could be in place at the conclusion of this phase of the project. Already, both governments have initiated actions at the national level with the Inter-American Development Bank.

That said, the subset of actions which constitutes the current project has been selected because these actions comprise a specific set of priority, incremental activities that will facilitate execution of the remaining strategic actions. Successful implementation of these actions will provide essential support to the efforts of regional, national and binational institutions in implementing the balance of the program of action identified in the SAP during subsequent phases of this project.

**3. Excessive monitoring and implementation costs due to apparent large number of basin-wide pilot projects**

It should be noted that the proposed pilot projects are not basin-wide, nor they are so numerous as indicated. Nevertheless, all of the proposed projects are predicated upon successful pilot activities initially identified during the SAP formulation phase, and many are meant to extend and deepen activities that proved successful in localized areas during the SAP formulation phase. As previously noted, the close involvement of agencies, institutions and individuals at all levels, within the administrative structure specified for the project, will maximize available human and institutional resources within budgetary constraints. Funds already committed at the local and regional levels will augment and complement GEF funds to ensure adequate and accurate monitoring of project progress and outputs. In addition, monitoring activities are integrated into the sub-projects through systematic workshops and stakeholder meetings which are meant not only to ensure public participation but also act as means of community based assessment and monitoring opportunities. Further, these workshops and meetings will contribute to local adoption of successful measures and actions, ensuring their dissemination and implementation elsewhere in the Plata River basin. In short, it is the assessment of the project staff as well as of the independent evaluation team that reviewed the SAP formulation project that this approach will enhance the project's likely impact.

**4. Institutional and legal framework**

One of the main objectives of this project is the development of a harmonized institutional and legal framework for the binational basin of the Bermejo River. Activities specifically address weaknesses within the current organizational base, identified during SAP formulation, that hinder the effective, holistic management of the water resources of the Bermejo Basin. This will ensure institutional capacity to implement the new laws, regulations, and procedures necessary for the longer-term success of the watershed management measures. It will also help to increase participation in decision-making within the Basin, and enhance and underpin the

ability of the Binational Commission not only to carry out its current mandate but also to assume additional responsibilities relating to information sharing and coordination among stakeholders. Resolution of transboundary issues necessary to establish an integrated framework for shared water resources management (e.g., water quantity, and quality, EIA, licensing criteria, monitoring, environmental minimum flows, environmental protection and services) will be dealt with through the participation of those organizations in each country having jurisdiction and competence for portions of the binational basin. The Binational Commission will facilitate and ultimately implement the outcomes of these integrative actions. The proposed project approach recognizes that the harmonization of legal and financial frameworks within shared river basins must be carried out, of necessity, at the national level within the basin. It also acknowledges that relevant actions must be taken at the binational level to ensure consistency between countries in order to avoid the historic “disconnects” inherent in the resolution of issues without due regard to their transboundary nature.

Finally, the relative extent of the Bermejo Basin within Bolivia and Argentina, admittedly, is small when compared with the size of the two countries. Nevertheless, it is precisely this small size that contributes to the project’s extremely large likelihood of success. The Bermejo River Basin was initially selected for inclusion in the GEF International Waters portfolio from among the large number of river systems tributary to the Plata River as it was determined to be the one basin that could be successfully planned and managed with the available financial, human and institutional resources. This reasoning remains a paramount aspect of the Bermejo River Basin project. In addition, while such concerns as have been noted by France would be a matter of concern given the centralized French administrative set up, they are of less concern in Argentina, where there is an high degree of autonomy among riparian provinces. These provinces not only form the major portion of the basin, but also are the competent territorial units for establishing and implementing the legal framework for managing the river and its watershed.

**ANNEX IV**  
**COUNTRIES ENDORSEMENT LETTERS**

**Letter of Endorsement from Bolivia**



Comision Nacional de los Rios  
Pilcomayo y Bermejo

La Paz, 21 de junio de 2000  
CNRPB - OTN Of. No.115/00

De nuestra mayor consideracion:

Los delegados por Bolivia ante la Comision Binacional para el Desarrollo de la Alta Cuenca del Rio Bermejo y el Rio Grande de Tarija presentan sus atentos saludos al Fondo Para El Medio Ambiente Mundial y tienen el agrado de presentar a su consideracion la propuesta de financiamiento para la etapa de implementacion del "Programa Estrategico de Accion para la Cuenca Binacional del Rio Bermejo, PEA"; similar nota les sera enviada por los puntos focales de la Republica Argentina. En este sentido, forman parte de esta solicitud de los siguientes documentos:

- Diagnostico Ambiental Transfronterizo de la Cuenca del rio Bermejo
- Programa Estrategico de Accion para la Cuenca Binacional del rio Bermejo
- Documento del Proyecto, el cual describe la solicitud de financiamiento para la siguiente etapa del PEA

Con este particular, hacemos propleia la oportunidad para reiterar al FONDO PARA EL MEDIO AMBIENTE MUNDIAL las seguridades de nuestras mas alta y distinguida consideracion.

Atentamente,

Emb. Jorge Soruco Villanueva  
Primer Delgado ante la Comision  
Binacional y Vice Ministro de Politicos  
Exterior

Ing. Jorge O'Connor d'Ariaph M.  
Segundo Delegado ante la Comision  
y Director Ejecutivo de la OTN

cc: PNUMA y USDM de la OEA

A Los Senores  
FONDO PARA EL MEDIO AMBIENTE MUNDIAL (FMAM)  
Washington D.C., Estados Unidos de America

---

OFICINA TECNICA NACIONAL  
Telefono +591-66-48819 - Fax +591-66-48248 Buzon Postal 5186 - TARIJA –  
BOLIVIA

**Letter of Endorsement from Argentina**

*Ministerio de Relaciones Exteriores,  
Comercio Internacional y Culto*

Buenos Aires, June 28th, 2000

Mr. Alfred Duda  
GEF Operations  
18 18 H Street, N W Room G6035,  
Washington DC, 20433  
Fax: 001202 47-31-077

Ref: Argentina/Bolivia - Implementation of the Strategic Action Program for the Bermejo River Binational Basin: Phase I

Dear Mr. Duda.

As the GEF Political Focal Point, the Argentine Ministry of Foreign Affairs, fully endorses the above mentioned project.

This project will help to provide the necessary institutional, legal, and informational basis to enhance and restore de environmental funtioning of the binational basin.

We look forward to continue collaborating with GEF's activities.

Yours faithfully,

A black rectangular redaction box covering the signature of the ambassador.

Elsa Kelly  
Ambassador  
Special Representative for  
International Environmental Affairs

**PUBLIC INVOLVEMENT PLAN SUMMARY**

1. Public participation in the management of the water resources of Argentina and Bolivia is an integral feature of the project. More than 750 persons, representing in excess of 80 civil, corporate, nongovernmental, and governmental entities (having municipal, prefectural/provincial, federal, and international interests) participated in the consultation process that led to the formulation of this project. Participating organizations are set forth below. Their participation led to the identification and definition of some 250 detailed project proposals that were conveyed to the project team during public and stakeholder meetings convened during the SAP formulation process within the Basin. The project concepts were used by the project team to formulate the proposed implementation program set forth in this project document.

2. Public meetings were held during the SAP formulation period in each of the major prefectural and provincial centers in the Bermejo River basin between December 1995 and July 1999. The full proceedings of these meetings are available from the Binational Commission. These meetings represented a continuation of the contacts with the agencies, private sector organizations, academic institutions, and NGOs, initiated during SAP formulation, and improved and clarified specific issues arising from component proposals and other observations made during the project preparation period. Additional communications, including more than 700 letters and 500 sets of workshop documents received from and distributed to some 550 individuals and institutions on the program's mailing lists, ensured an highly transparent project preparation effort.

3. This high level of public and stakeholder participation will be continued during the development and implementation of the IWRMP for the BRBB. Stakeholder participation in the project, including community- and corporate-based environmental information and education campaigns, training courses and symposia, and actions, continues to be designed to increase the capacity and future participation of institutions, personnel, and individuals to undertake activities in support of the IWRMP. Specific actions are proposed to be conducted under the project which address issues related to public and stakeholder participation in the implementation process, and/or which provide support for the further development of a sound public participation and involvement strategy as one of the strategic actions of the SAP implementation.

**BINATIONAL AND INTERNATIONAL INSTITUTIONS**

1. Binational Commission for the Development of the Upper Basin of the Río Bermejo and the Río Grande de Tarija
2. Organization of American States (OAS)
3. United Nations Environment Programme (UNEP)
4. Global Environmental Facility (GEF)

## **GOVERNMENTAL AND NONGOVERNMENTAL INSTITUTIONS IN ARGENTINA**

1. National Parks Administration, SRNDS
2. Center for Population Studies (CENEP)
3. Regional Commission for the Río Bermejo (COREBE)
4. CHACO, Provincial Water Administration, Directorate of Basic Studies
5. CHACO, Provincial Water Administration
6. CHACO, Directorate of Soils, Secretariat of Natural Resources and the Environment
7. CHACO, Total Environment Foundation
8. CHACO, Institute for Social Development and Human Promotion (INDES)
9. CHACO, Provincial Settlement Institute
10. NW Argentina Regional Technical Delegation, National Parks Administration
11. EVARSA, Evaluación de Recursos, S.A.
12. FORMOSA, Forestry Directorate, Secretariat of Natural Resources and Ecology
13. FORMOSA, School No. 109, El Zapallito neighborhood
14. FORMOSA, School No. 404
15. FORMOSA, School No. 43
16. FORMOSA, Federation of NGOs / CIRENOR
17. FORMOSA, Ministry of Education, General Directorate of Basic Education
18. FORMOSA, Ministry of Production
19. FORMOSA, Ministry of Production, Directorate of Water and Soil
20. FORMOSA, Gral. Lucio V. Mansilla Municipality
21. FORMOSA, Mayor Villafañe Municipality
22. FORMOSA, Pozo del Tigre Municipality
23. FORMOSA, Central Program Administration Unit
24. Environment and Natural Resources Foundation (FARN)
25. Argentine National Gendarmes, Environmental Division, Salta Group
26. National Water and Environment Institute, Hydraulics and Environmental Laboratory
27. National Water and Environment Institute, National Toxic Waste and Water Pollution Program
28. National Water and Environment Institute, Hydrology Center
29. INTA Ibarreta Agricultural Extension Center, Formosa
30. INTA Chaco Regional Center – Formosa
31. INTA Salta Regional Center, Salta Station
32. INTA Colonia Benítez Agricultural Experimental Station
33. INTA El Colorado Agricultural Experimental Station, Formosa
34. INTA Saénz Peña Agricultural Experimental Station
35. INTA Climate and Water Institute, Castelar
36. INTA Soil Institute, Castelar
37. JUJUY, Aguas de los Andes S.A.
38. JUJUY, General Directorate of Renewable Natural Resources
39. JUJUY, Provincial Directorate of Hydraulics
40. JUJUY, Superintendency of Public Services (SUSEPU)
41. Las Yungas Ecological Research Laboratory (LIEY), Tucumán University



42. Argentine Ecological Movement (El Colorado Base), Formosa
43. SALTA, former General Water Administration of Salta (AGAS)
44. SALTA, Association of Alternative Tourism Operators of Salta (ADOPTAS)
45. SALTA, Environment Directorate, Ministry of Public Health
46. SALTA, Directorate of the Environment and Natural Resources
47. SALTA, Los Toldos Municipality
48. SALTA, Provincial Tourism Secretariat
49. University of Buenos Aires, Landscape and Environment Study Group (GEPAMA)
50. University of Buenos Aires, Regional Ecology Study Group (GESER)
51. National University of Formosa
52. National University of Formosa, Sylviculture Institute
53. National University of Jujuy
54. National University of Jujuy, Geology and Mining Institute
55. National University of Salta, Faculty of Natural Sciences, Soils Department
56. National University of Salta, Faculty of Natural Sciences, Geomorphology Department
57. National University of Salta, Sociodemographic Study Group (GREDES)
58. National University of the Northeast, Faculties of Engineering and Humanities, Applied Geoscience Institute
59. National University of the Northeast, Engineering Faculty, Hydraulics Department

## **GOVERNMENTAL AND NONGOVERNMENTAL INSTITUTIONS IN BOLIVIA**

### **PUBLIC INSTITUTIONS**

1. Prefecture of Tarija Department:
  - Directorate of Economic Development
  - Basic Clean-up Unit
  - Agricultural Development Unit
  - Strategic Food Security Program
  - Directorate of Sustainable Development and the Environment
  - Forestry Development Unit
  - Social Development Directorate
  - Prefecture Action Program
  - National Governance Program
  - Subprefecture of Méndez province
  - Subprefecture of Avilés province
  - Subprefecture of Arce province
  - Bermejo town council
  - Tarija department council
2. General Directorate of Biodiversity, Vice Ministry of Sustainable Development and the Environment
3. ZONISIG
4. Tarija Executive Program for Land Recovery, PERTT
5. San Jacinto Association
6. National Meteorology and Hydrology Service, SENAMHI
7. National Irrigation Program, PRONAR
8. Bolivian Agricultural Technology Institute, IBTA

9. Cercado municipal mayor's office
  - Cercado province municipal council
  - Technical Unit for Planning
  - Technical Unit for Urban Development
  - Tarija municipal sanitation corporation
10. San Lorenzo municipal mayor's office
11. Padcaya municipal mayor's office
12. Bermejo municipal mayor's office
13. Uriondo municipal mayor's office
14. Entre Ríos municipal mayor's office
15. Juan Misael Saracho Autonomous University
  - Research Directorate
  - Faculty of Science and Technology
  - Civil engineering school
  - Faculty of Forestry and Agronomic Science
  - Agronomic engineering school
  - Forestry engineering school
  - Faculty of Social and Legal Science
  - Law school
  - Bolivian Inter-University Water Resource Institute, INIBREH
16. Social Investment Fund, FIS
17. Campesino Development Fund, FDC
18. National Agrarian Reform Institute, INRA
19. Tarija Parliamentary Brigade
20. Tarija district court

**PRIVATE INSTITUTIONS:**

21. Drinking Water and Drainage Cooperative of Tarija, COSAAL
22. Tarija Civic Committee
23. Sole Union Federation of Campesino Workers of Tarija
24. Sole Union Federation of Campesino Workers of Bermejo
25. Volunteers of the Peace Corps
26. Federation of Neighborhood Committees of Tarija
27. College of Agronomic Engineers

**NONGOVERNMENTAL ORGANIZATIONS**

28. Tarija Regional Development Study Center, CERDET
29. Agricultural Research and Training Center, CICA
30. Development and Environment Information Center, CIRDEMA
31. Vida Verde
32. Tarija Environmental Protection, PROMETA
33. Loyola Cultural Action, ACLO
34. Tarija Social Pastoral
35. Tarija International Plan
36. Church Social Assistance Office, OASI
37. Tarija Environmental and Development Forum
38. Peasant Research and Support Center, CIAC
39. Peasant Research and Training Institute, IICCA

AVAILABLE REFERENCE DOCUMENTS

1. PEA El. 1.1. 1999a. Instituto de Suelos. INTA (Coord.). Universidad Nacional de Jujuy, Universidad Nacional de Salta, EEA Cerrillos- INTA. *Digital Thematic Cartography of Argentine Territory in the Upper Bermejo River Basin; (base map, geology, geomorphology, hydrology, soils, vegetation, population and infrastructure, land use)*. Elemento 1.1: Movimiento Transfronterizo de Contaminantes. Instituto Nacional de Tecnología Agropecuaria. Buenos Aires, Argentina.
2. PEA El. 1.1. 1999b. Brea, D., et al. *Analysis of the Sediment Production and Transport in the Upper Bermejo River Basin and its Impact in the Paraná Waterway, Delta del Paraná and Río de la Plata*. Instituto Nacional del Agua y del Ambiente. Elemento 1.1.: Movimiento Transfronterizo de Contaminantes. Buenos Aires, Argentina.
3. PEA El. 1.1. 1999c. Hopwood, H.J. *Sediment Load of the Bermejo River and the Evolution of the Delta del Paraná and Río de la Plata*. Danish Hydraulic Institute. Elemento 1.1: Movimiento Transfronterizo de Contaminantes. Buenos Aires, Argentina.
4. PEA El. 1.1. 1999d. Peviani, M. *Morphological Model of the Upper Bermejo River*. Elemento 1.1: Movimiento Transfronterizo de Contaminantes. Italia.
5. PEA El. 1.1. 1999e. Universidad Autónoma Juan Misael Saracho (UJMS); *Study of environmental clean-up of the Guadalquivir River*. Elemento 1.1 Movimiento Transfronterizo de Contaminantes. Volúmenes 4.110.1 a 4.110.5. Tarija, Bolivia.
6. PEA El. 1.1. 1999f. Zonificación Agroecológica y Socioeconómica con Sistemas de Información Geográfica (ZONISIG). *Digital Thematic Cartography of the Bermejo River Basin (Bolivia). Maps and Report*. Elemento 1.1 Movimiento Transfronterizo de Contaminantes. Tarija, , Bolivia.
7. PEA El. 2.1. 1999. Benítez A. *Criteria and Parameters for the Classification of Water Courses*. El. 2.1. Classification of water courses. Volúmenes 4.11.1 a 4.11.6. Tarija, Bolivia.
8. PEA El. 2.2. 1999b. *Integrated Management Plan of the Nature Resources of the Camacho River Basin*. Elemento 2.2. Control de Erosión, Santa Ana / Camacho. Volúmenes 4.90.1 a 4.90.11. Tarija, Bolivia.
9. PEA El. 2.2. 1999c. *Integrated Management Plan of the Nature Resources of the Santa Ana River Basin*. Elemento 2.2. Control de Erosión, Santa Ana / Camacho. Volúmenes 4.80.1 a 4.80.17. Tarija, Bolivia.

10. PEA El. 2.3 1999. IICCA. *Soils Use, Legal Status and Land Ownership in the Central Valley of Tarija and its relationship with the erosion*. Elemento. 2.3 Tenencia de la Tierra, Valle Central de Tarija. Volúmenes 4.60.1 a 4.60.6. Tarija, Bolivia.
11. PEA 2.4. 1999. Alzérreca, H. *Study of pasture lands (CANAPAS) of the Central Valley of Tarija*. Elemento 2.4 Manejo de Pasturas, Valle Central de Tarija. Volúmenes 4.70.1 a 4.11.6. Tarija, Bolivia.
12. PEA El. 2.5. 1998. Arrieta, J.; Pastor, C. *Socio-economic and Environmental Survey of the Communities along the Middle and Lower reaches of the Bermejo River*. Informe y Anexos. Elemento: 2.5: Uso del Suelo en la Cuenca del Río Inferior. Buenos Aires, Argentina.
13. PEA El. 2.5. 1999. Administración Provincial del Agua (Coord.), Centro de Geociencias Aplicadas (UNNE), Departamento de Hidráulica (UNNE), INTA E.E.R.A. Saénz Peña, INTA E.E.R.A. C. Benítez, Dirección de Suelos y Agua Rural de la Subsecretaría de Recursos Naturales y Medio Ambiente de la Pcia. del Chaco. *Digital Thematic Cartography of the Lower Bermejo River Basin*. Elemento 2.5: Uso de la Tierra en la Cuenca del Río Bermejo. Chaco, Argentina.
14. PEA El. 2.5. 1999b. Brea, D., et al. *Study of fluvio-morphological dynamics in the lower reach of the Bermejo River*. Instituto Nacional del Agua y del Ambiente. Elemento 2.5: Uso del Suelo en la Cuenca Inferior del Río Bermejo. Buenos Aires, Argentina.
15. PEA El. 2.6. 1999. Cardozo, J. et al. *Increase of Forage Yields through Water Management in Marshlands and Swamplands, and Productive Recovery of Land Infested with Vinal*. Elemento 2.6: Manejo de Forrajes. Chaco Húmedo. Formosa, Argentina.
16. PEA El. 3.1. 1999. Marconi, P. et al. *Transition Forest in the Province of Salta: Identification of Sustainable Alternative Practices of Ecotourism-type and Implementation of the Pilot Demonstration Project*. Administración de Parques Nacionales. Elemento 3.1. : Bosques de Transición Salta, Argentina.
17. PEA El. 3.2. 1999a. *Sediment Control in the Tolomosa River Basin - Pilot Demonstration Project*. Elemento 3.2 Manejo de la Cuenca del río Tolomosa. Volúmenes 4.86.1 a 4.86.6. Documentos de Construcción. Tarija, Bolivia.
18. PEA El. 3.2. 1999b. *Sediment Control in the Tolomosa River Basin - Pilot Demonstration Project*. Elemento 3.2. Manejo de la Cuenca del río Tolomosa. Volúmenes 4.87.1 a 4.87.7. Documentos de Prácticas Biológicas. Tarija, Bolivia.
19. PEA El. 3.3. 1999. Brown, A.; Grau, A. *Strengthening of Sustainable Production Diversity (Community of Los Toldos, Salta)*. Laboratorio de Investigaciones

- Ecológicas de las Yungas (LIEY). Elemento 3.3: Desarrollo Sustentable en las Yungas. Tucumán, Argentina.
20. PEA El. 3.4. 1999. Vargas R. (coord.) et al. *Socioeconomic and Environmental Constraints Restricting Sustainable Development*. Elemento 3.4: Remoción de Barreras Chaco Húmedo y Seco. Chaco, Argentina.
  21. PEA El. 4.1. 1997. *Rehabilitation and Improvement of the Hydrometeorological Network of the Upper Bermejo River and Grande de Tarija River Basin*. Elemento 4.1. Red Hidrometeorológica. Volúmenes 3.13.1 y 4.13.2. Tarija, Bolivia.
  22. PEA El. 4.1. 1999a. Carrizo, R. *Proposal for the Water Quality Component. Environment Information System of the Bermejo River Basin*. Elemento 4.1: Red Hidrometeorológica. Buenos Aires, Argentina.
  23. PEA El. 4.1. 1999b. Malinow, G. *Proposal for the Hydrometeorological and Hydrosedimentological Network of the Environment Information System of the Bermejo River Basin*. Elemento 4.1: Red Hidrometeorológica. Buenos Aires, Argentina.
  24. PEA El. 4.2. 1998. Gabay, M; De Donatis, T. *Analysis of legal environmental framework the Bermejo River Basin in Argentine Territory*. Elemento 4.2: Legislación Ambiental, COREBE. Buenos Aires, Argentina.
  25. PEA El. 4.2. 1999. Rovere, M.; Cabrera, M. *Strengthening and Harmonization of the Legal and Institutional Framework for Environmental Management in the Bermejo River Basin*. Elemento. 4.2: Legislación Ambiental, Fundación Ambiente y Recursos Naturales. Buenos Aires, Argentina.
  26. PEA El. 4.2. 1999. Darwich, E. *Collection and Proposal of Environmental Laws in Bolivia*. Elemento 4.2: Legislación Ambiental, Volúmenes 4.95.1 a 4.95.2.. Tarija, Bolivia.
  27. PEA El. 4.3. 1999. Protección del Medio Ambiente Tarija (PROMETA). *Baritú - Tariquía Environmental Corridor Proposal*. Elemento 4.3 Corredor Biológico Baritú Tariquía. Volúmenes 4.100.1 a 4.100.6. Tarija, Bolivia.
  28. PEA El. 5.1. 1999a. Lattes, A. Boleda, M. et al. *Transboundary Migrations in the Bermejo River Basin*. Volumen I y II. Elemento 5.1: Migraciones Transfronterizas. CENEP y GREDES. Buenos Aires- Salta, Argentina.
  29. PEA El. 5.1. 1999b. Guevara J. OASI; *Study of Transboundary Migration*. Elemento 5.1 Migraciones Transfronterizas. Volúmenes 4.110.1 a 4.110.5. Tarija, Bolivia.

30. PEA El. 5.2. 1999. Pérez, V. et al. *Promoting Forestry Awareness in the Community through Schools and Municipalities*. Informe y Anexos. Elemento 5.2: Educación Ambiental. Formosa, Argentina.
31. PEA El. 6.1 1999a. Adámoli, J; Morello, J. et al. *Ecological and Environmental Zoning of the Bermejo River Basin*. Elemento 6.1: Formulación del Programa Estratégico de Acción. Buenos Aires, Argentina.
32. PEA El. 6.1. 1999b. Laurelli E; Vaghi A. *The Bermejo River Basin into the Regional Framework*. Elemento 6.1: Formulación del Programa Estratégico de Acción. Buenos Aires, Argentina.
33. PEA El. 6.1. 1999c. Manzanal M, Arrieta J. *Socio-economic Analysis of the Bermejo River Basin in Argentine Territory*. Elemento 6.1: Formulación del Programa Estratégico de Acción. Buenos Aires, Argentina.
34. PEA El. 6.1. 1999d.. *Regional Survey of Environmental and Development Projects and Initiatives*. Elemento 6.1: Formulación del Programa Estratégico de Acción. Buenos Aires, Argentina.
35. PEA El. 6.1. 1999e. Seoane, R.S.; Moyano, M.C. *Analysis of the Impact of Climate Change on the Hydrology of the Bermejo River Basin*. Elemento 6.1 Formulación del Programa Estratégico de Acción para la Cuenca del Río Bermejo. Instituto Nacional del Agua y del Ambiente. Buenos Aires, Argentina.
36. PEA El. 6.1. 1999f. *Transboundary Diagnostic Analysis of the Bermejo River Basin in Argentina*. El. 6.1 Formulación del Programa Estratégico de Acción Ambiental. Buenos Aires, Argentina.
37. PEA El. 6.1. 1999g. *Transboundary Diagnostic Analysis of the Bermejo River Basin in Bolivia*. El. 6.1 Formulación del Programa Estratégico de Acción Ambiental. Informe y Mapas. Tarija, Bolivia.
38. PEA El. 6.1. 1999h. Universidad Autónoma Juan Misael Saracho (UJMS). *Flood Control in Tarija City*. Elemento 6.1 Formulación del Programa Estratégico de Acción. Volúmenes 4.110.6 a 4.110.8. Tarija, Bolivia.
39. PEA El. 6.2. 1997. Programa Estratégico de Acción, *First Regional Workshop for the Formulation of the Strategic Action Program*. Elemento 6.2: Participación Pública. Salta, Argentina.
40. PEA El. 6.2. 1998a. Programa Estratégico de Acción. *Second Regional Workshop for the Formulation of the Strategic Action Program*. Elemento 6.2: Participación Pública. Formosa, Argentina.

41. PEA El. 6.2. 1998b. Programa Estratégico de Acción. *Third Regional Workshop for the Formulation of the Strategic Action Program*. Elemento 6.2: Participación Pública. Jujuy, Argentina.

**ANNEX VIII**

**Plans And Development Programs Within The Bermejo River Binational Basin Providing Associated Financial Support  
To Specific Priority Strategic Actions Identified in the SAP**

PRIORITY STRATEGIC ACTIONS		Pro-rated estimated investment for Riparian Provinces in Argentina Riparian Prefecture and Municipalities in Bolivia Million US \$				TOTAL
		IDB	WB	Other Foreign	Govern -ment	
Plans and Programs <sup>3</sup>						
<b>A. INSTITUTIONAL DEVELOPMENT</b>						
a.4	<b>Implementation and Strengthening of the Basin Environmental Information System</b>					
	PASMA I & II – Technical assistance mining sector development (Arg.)		10.44		2.55	12.99
a.5	<b>Formulation and Implementation of Integrated Management Plans for Basins, Environmental Zoning, and Territorial Ordering</b>					
	Land use planning/GIS ZONISIG (Bol.)			2.00 Holland	0.40	2.40
a.6	<b>Institutional Strengthening for Integrated Natural Resource Management</b>					
	Institutional development and social investment in municipalities (Arg)	42.00			18.00	60.00
	Provincias II – Second provincial development program (Arg.)		45.00		19.20	64.20
	Second loan for provincial reform (PRL II) (Arg.)		75.00			75.00
	Civil society strengthening plan (Arg.)				1.38	1.38
	PRODISM - Program of funding for municipalities (Arg.)				8.55	8.55
	CENOC – National Center for Community Organizations (Arg.)				0.84	0.84
	PFDJ – Youth Development strengthening plan (Arg.)				0.56	0.56
	FOPAR – Participatory social investment fund				5.28	5.28
	Participatory rural investment project (Bol)		1.00		0.20	1.20
	AUTAPO – Support for Tarija and Potosi Universities (Bol)			2.00 Holland	0.10	2.10

<sup>3</sup> Some plans and programs support various priority strategic actions.



PRIORITY STRATEGIC ACTIONS		Pro-rated estimated investment for Riparian Provinces in Argentina Riparian Prefecture and Municipalities in Bolivia Million US \$				TOTAL
		IDB	WB	Other Foreign	Govern- -ment	
Plans and Programs <sup>3</sup>						
SUB-TOTAL STRATEGIC ACTION "A"		42.00	131.44	4.00	57.06	234.5
<b>B. ENVIRONMENTAL PROTECTION AND REHABILITATION</b>						
b.1	<b>Protecting Biodiversity and Natural Heritage</b>					
	Native Forests and Protected Areas Project		2.93	1.50 GEF	1.88	6.30
b.3	<b>Implementation of Plans to Mitigate the Effects of Floods and other Climatological Disasters</b>					
	PREI – Program for flood victims; house rebuilding subprogram (Arg.)				1.14	1.14
b.4	<b>Prevention, Pollution Control, and Environmental Clean-up of Bodies of Water</b>					
	National drinking water and clean-up program, stage VI (Arg.) (50%)	20.00			5.00	25.00
b.5	<b>Prevention and Control of Erosion and Sedimentation</b>					
	Erosion control project in the El Monte and San Pedro subbasins (Bol.)			3.80 JICA	1. 00	4.80
SUB-TOTAL STRATEGIC ACTION "B"		20.00	2.93	5.30	9.02	37.25
<b>C. SUSTAINABLE DEVELOPMENT OF NATURAL RESOURCES</b>						
c.3	<b>Development, Validation, and Application of Appropriate Technologies and Sustainable Productive Models</b>					
	Forestry development project (Arg.)		2.40		1.50	3.00
	PROSAP – Provincial agricultural services program (Arg.)	18.75	18.75	2.58	13.50	53.58
	PRODERNEA – Program of credit & tech. support for small-scale farmers in NE (Arg)				2.88	2.88
	PROHUERTA – Orchards program (Arg.)				1.50	1.50
	PSA - Social agricultural program (Arg.)				1.40	1.40
	Natural resources and environment program (Bol.)			0.50 KWF	0.10	0.60

PRIORITY STRATEGIC ACTIONS		Pro-rated estimated investment for Riparian Provinces in Argentina Riparian Prefecture and Municipalities in Bolivia Million US \$				TOTAL
		IDB	WB	Other Foreign	Govern- ment	
Plans and Programs <sup>3</sup>						
c.4	<b>Implementation of Projects for the Sustainable Development and Use of Water Resources</b>					
	PROSOFA (Arg)			8.80 FonPlata	1.20	10.00
	National drinking water and clean-up program, stage VI (Arg.) (50%)	20.00			5.00	25.00
	PROPASA (Arg)				13.60	13.60
	Water resources program, Phase 3 (Bol.)			2.00 China	0.80	2.80
	Water supply program (Bol.)		4.00		2.00	6.00
<b>SUB-TOTAL STRATEGIC ACTION "C"</b>		<b>38.75</b>	<b>25.15</b>	<b>13.88</b>	<b>43.48</b>	<b>121.26</b>
<b>D. PARTICIPATION, AWARENESS AND REPLICATION OF PROJECT ACTIVITIES</b>						
d.1	<b>Strengthening Public Participation in Action Planning and Implementation</b>					
	INAI – Actions by the National Aborigine Affairs Institute (Arg.)				1.00	1.00
d.2	<b>Environmental Education and Training Programs for Civil Society</b>					
	PRISE – Primary education reform and investment program (Arg.)	60.00			60.00	120.00
	Social educational plan – PSE I & II (Arg.)				15.60	15.60
d.4	<b>Public Access and Dissemination of Information for Supporting Decision-Making Processes</b>					
	SIEMPRO – Social programs information, monitoring, and assessment system (Arg.) (*)				1.13	1.13
<b>SUB-TOTAL STRATEGIC ACTION "D"</b>		<b>60.00</b>	<b>0.0</b>	<b>0.0</b>	<b>77.73</b>	<b>137.73</b>
<b>TOTAL</b>		<b>160.75</b>	<b>159.52</b>	<b>23.18</b>	<b>187.29</b>	<b>530.74</b>

(\*) Estimated program budgets based on 1997 figures. Source: SIEMPRO

**WORK PROGRAM**

Project number:	GF/1010-01-
Project name:	Argentina/Bolivia - Implementation of the Strategic Action Program for the Bermejo River Binational Basin: Phase I
Duration of project:	4.5 years
Implementing Agency:	UNEP
Executing Agency:	General Secretariat of the OAS  Binational Commission for the Development of the Bermejo River and Rio Grande de Tarija Upper Basins
Requesting Countries:	Argentina and Bolivia
Country Eligibility:	Eligible pursuant to paragraph 9(b) of the instrument.
Focal Area:	International Waters with relevance to the cross-cutting area of Land Degradation
GEF Programming Framework:	OP 9 Integrated Land-Water Multiple Focal Area

---

1. **The Project.** The purpose of this project, Implementation of the Strategic Action Program for the Bermejo River Binational Basin, is to promote and restore proper environmental functioning of the Bermejo River Basin ecosystems, by undertaking strategic actions to address the basic and direct causes of environmental degradation as identified in the Strategic Action Program (SAP) for the Bermejo River Binational Basin (BRBB). These actions will supplement activities currently underway or programmed by the governments of Argentina and Bolivia, and by the provincial governments in Argentina and the Prefecture of Tarija in Bolivia, with funding from local sources and international loans. The key elements of the project will involve developing and strengthening the institutions of the basin, including improving institutional capacities and organizational abilities and their sectoral and regional coordination, integrating environmental concerns into economic development activities through effective management and handling of

water and other natural resources, and promoting public awareness and participation in the process of managing the land and water resources of the Bermejo River Basin.

2. The Bermejo River is a tributary of the Paraguay River, which, together with the Paraná and Uruguay rivers, forms the system known as the Cuenca del Plata, or Plata River Basin. This system drains an area of some 3 million km<sup>2</sup>, or nearly one-fifth of the South American continent, to the Atlantic Ocean. Within this system, which extends along either side of the Tropic of Capricorn, the Bermejo River watershed is approximately 123,162 km<sup>2</sup> in areal extent and has a length of about 1,300 km from its origin in the Andes Mountains to its confluence with the Paraguay River. A key feature of this watercourse is the fact that it is the only river that actually crosses the huge expanse of the Chaco plain. Other major rivers in the region, such as the Timani and the Pilcomayo, infiltrate into the subterranean water system of the plain and do not retain their identity as surface watercourses. For this reason, the Bermejo River Basin is an "exporter" of sediments, and has a great influence on the content of sediments in the Paraguay-Parana river system. The Bermejo River Basin also provides exceptional diversity of habitat and opportunities to maximize biological diversity along its course. A principal feature of this continuous watercourse is that it creates a biological corridor connecting the biotic elements of the ecosystems of the Andean Region and of the Chaco Plain, and these with those of the Atlantic ecosystems.

3. Drawing upon the results of studies and pilot demonstration projects completed prior to and during the process of completing the Transboundary Diagnostic Analysis (TDA) and developing the SAP, this project will facilitate actions by the governments of Argentina and Bolivia to promote sustainable development in the BRBB. This project is designed to begin the process of implementing the developmental and environmental guidelines of the SAP and, through a broad and participatory action program, to address the principal causes of environmental degradation within the BRBB. The proposed components of the project are consistent with the globally important concerns and priority actions identified in the SAP. These actions, however, constitute only a small part of the total program included in the overall strategic action program set forth in the SAP. This subset of actions has been selected because they comprise a specific set of priority, incremental activities that will facilitate execution of the remaining strategic actions. Successful implementation of these actions will provide support to the efforts of regional, national and binational institutions in implementing the balance of the program of action identified in the SAP during subsequent phases of this project. The four components that together embrace all the project activities are detailed below. These priority components have been identified through a process of broad-based public participation and have been designed to permit the formulation and implementation of a program for integrated management of the basin's water resources (IWRMP).

4. UNEP, in its role as implementing agency, in consultation with the OAS, the Binational Commission and the governments of Argentina and Bolivia, has prepared preliminary descriptions and budgets for the activities that are proposed within each of these four components. These are summarized in the following paragraphs. It should be noted that, because of the diversity of these activities, each of the four components is multifaceted in nature and includes not only activities directly related to specific outcomes, but also opportunities for the

active involvement of different social stakeholders, for environmental education of local inhabitants and technical staff, for institutional strengthening, etc. Nevertheless, for the sake of brevity and clarity, each activity has been categorized within one specific component, and is not repeated under the remaining areas to which it may be related. One of the first activities to be undertaken by the project executing units, in consultation with UNEP and the OAS, will be to prepare for each component a detailed work program establishing the terms of reference for each strategic activity and the objectives to be achieved during the period of implementation of the project.

#### A. COMPONENT I: INSTITUTIONAL DEVELOPMENT AND STRENGTHENING FOR INTEGRATED WATER RESOURCES PLANNING AND MANAGEMENT

5. Component I is designed to provide a broadly participatory institutional framework by developing and strengthening the legal basis underlying the regulation, planning, and environmental and social evaluation of the environmental, economic, and financial arrangements that are indispensable for implementing the activities of prevention, restoration, planning, and development of the natural resources identified in the SAP. The two activities that make up this first component are aimed explicitly at creating an effective and integrated organizational base that will involve both the public and private sectors in implementing a multisectoral and holistic approach to the environmental management and economic development of the Basin, as proposed in Chapter 18 of Agenda 21. This framework is fundamental to support the extension and subsequent implementation of the specific strategic activities in the Basin that will address the basic causes of transboundary environmental problems—namely, land degradation and sediment transport—that form the remaining components of the project.

##### **Activity 1.1. Development and strengthening of the institutional framework**

This activity is intended (i) to deepen and broaden activities initiated during the SAP formulation stage with respect to the implementation of the project and the coordination role of the Binational Commission, including its institutional development as binational- interjurisdictional basin organization, (ii) to promote regional coordination and programming, and (iii) to address weaknesses in the complex institutional framework that currently impede a comprehensive vision of the Basin and the integrated and sustainable management of its resources. This activity is intended to develop and broaden the participatory framework, including mechanisms for specific participation by provincial governments, the prefecture and municipalities of Tarija, and to strengthen the capacities of the institutions that represent them. This will result in a greater institutional capacity at the regional level and will help to place management of the Basin's water resources on a sustainable footing. It will also ensure proper articulation and commitment among the institutional stakeholders that have primary responsibility for implementing the actions, so that they can serve as part of a regional coordination and programming process conducted by the Binational Commission and other existing regional agencies in each country. The results of this activity will be a documented framework for addressing transboundary problems inherent in the management of the Bermejo River Basin, including formal and informal mechanisms for participation by government units at the provincial and prefecture level in determining and implementing the IWRMP. This will take the form of fully operational coordination and

programming mechanisms within the Binational Commission for the Development of the Bermejo River and Rio Grande de Tarija Upper Basin, with participation by provincial governments and the Prefecture of Tarija. These mechanisms will analyze and integrate agreed strategic guidelines for a regional institutional framework into an appropriate and effective binational, interjurisdictional entity for the Basin, under which national-, provincial/prefectural- and municipal-level institutions can be strengthened in terms of their capacities and abilities to manage natural resources on a sustainable basis. This activity will also provide specific support to the regional entities of the two countries (COREBE and OTN), to provincial entities, the prefecture and municipalities of Tarija, academic organizations, NGOs, corporations, and governmental institutions involved in implementing the SAP, in order to develop their institutional, technical and administrative base. Consequently, this activity is designed to integrate the following specific actions, among others, identified in the SAP:

- Institutional development and strengthening of the Binational Commission for the integrated management of the Basin (SAP Project No. 1)

The purpose of this activity is to foster institutional development at the binational level in the Bermejo River Basin that will permit integrated and participatory planning and management of the basin's water resources. To this end, it includes actions to: (i) promote the establishment, under the aegis of the Binational Commission, with participation by the provinces of Argentina and the prefecture and municipalities of Tarija in Bolivia, of a coordination, programming, and control mechanism that will have a mandate covering the entire Basin, to design a proposed Basin-wide agency; (ii) agree on strategies for the implementation of such a mechanism; and (iii) strengthen the institutions involved in this coordination mechanism with a view to achieving the objectives of the SAP and of this project in particular.

- Institutional development for the integrated management of the Basin at the inter-jurisdictional level in Argentina (SAP Project No. 2)

The purpose of this activity is to support the institutional development of the Regional Commission for the Bermejo River with a view to establishing an interjurisdictional entity for the Bermejo River Basin in Argentina. While this will primarily facilitate integrated and participatory planning and management of the Basin's water resources within Argentine territory, the creation of an interjurisdictional mechanism between the provinces and municipalities within Argentina will contribute to the overall sustainable management of the Basin's resources. To this end, it includes actions to promote the design and implementation of an agency for the Basin, under the aegis of the Regional Commission for the Bermejo River, and to strengthen this commission and other institutions involved in order to facilitate achievement of the SAP objectives.

- Institutional strengthening and capacity building for governmental and civil society organizations (SAP Project No. 8)

The purpose of this activity is to strengthen the capacities of governmental and civil society organizations within the Bermejo River Basin that have responsibilities for, or involvement

in, the sustainable management of natural resources. This will result in a greater institutional capacity at the regional level for placing the management of the Basin's water resources on a sustainable footing, and articulating and committing institutional stakeholders with primary responsibility for implementing the activities, so as to integrate them into a process of regional coordination and programming. In this context, the project includes actions to support the equipping and training of technical and managerial personnel in these organizations.

The estimated cost of Activity 1.1 is US\$1,824,500 (GEF: US\$1,105,000; co-financing US\$809,500).

**Activity 1.2.    Development of a holistic regional legislative, economic, and environmental framework**

By designing and implementing legal and financial instruments and harmonizing standards for water quality management and land use in the Basin within a strong and integrated institutional framework, this activity will serve to inform and involve water resource professionals and others in the diagnosis and correction of environmental problems identified in the Bermejo River Basin. The results of this activity will produce a framework for addressing transboundary aspects inherent in management of the Basin.

This activity, therefore, will seek to establish a framework in which dialogue between the public and the agencies responsible for implementing integrated management programs for the Basin can be translated into a comprehensive legislative program aimed at strengthening their legal and political foundations. The nature and framework for these programs was developed during the SAP formulation stage of this project. This activity will facilitate the introduction of Basin management measures through a coordinated program of activities by both governments and nongovernmental organizations at all levels of civil society, including the proposed development of a legislative framework for strengthening and implementing the administrative mechanisms necessary for successful and equitable implementation of the IWRMP. In addition, it will make substantive progress in the introduction of environmental zoning and land-use planning as management and planning tools, in the form of strategic methodological guidelines validated at the regional level and concrete environmental actions at the local level, in particularly critical areas of the Basin. The results of this activity will help to optimize policies, practices and programs for managing water resources, thereby creating the economic and legal foundations for sustainable development of the Basin. The output of this activity will include a documented context for establishing a regional regulatory framework for the use and protection of shared water resources, the determination of water-use charges, including a restructuring of fiscal, financial, and legal mechanisms for managing the quantity and quality of water within the basin, as well as proposed legislation to put this framework into effect. A further explicit output of this activity will be legislative proposals for implementing the IWRMP at all levels of government and civil society.

Consequently, the activity will include the following specific activities, among others, identified in the SAP:

- Development and harmonization of political and legal frameworks for sustainable management of water resources in the Basin (SAP Projects No. 3 and No. 4)

The purpose of this activity is to promote action to establish common environmental quality objectives and policies, and to foster the participatory formulation and implementation of a regional regulatory framework that will address basic aspects in the management of shared water resources and make possible the integrated management of water and other natural resources. It will also encourage the development and harmonization of jurisdictional frameworks, particularly those relating to environmental legislation, water codes, environmental impact assessment standards, public participation and access to information. To this end, it will generate a process for developing and harmonizing regional and jurisdictional legal frameworks based on the joint preparation of technical criteria and instrumental strategies for their implementation.

- Environmental zoning and land-use regulation (SAP Project No. 7)

The purpose of this activity is to encourage land-use regulation as a basic tool of regional planning that will contribute to sustainable management of natural resources. To this end, the project will identify and assess the technical, institutional, legal, and political aspects that must be taken into account in establishing the basic instruments governing land settlement and economic activities as a function of the carrying capacity of natural resources. In Argentina, demonstration projects will be carried out in various areas of the basin, and support will be provided to initiatives now under way, in order to identify valid methodological and instrumental criteria for the different regions of the Basin that can be extended for application to the territory as a whole. In Bolivia, initiatives now under way in the prefecture of Tarija under the ZONISIG program will be supported in order to optimize their technical and human resources to ensure successful development of a land-use plan for the Upper Basin.

- Strengthening and developing economic instruments to promote sustainable use of water (SAP Project No. 9)

The purpose of this activity is to design and achieve consensus on strategies, at the regional level, for incorporating financial and economic instruments to reflect the economic value of water. These strategies will be designed as complementary to other regulatory instruments governing natural resources in the Bermejo River Basin region and will constitute genuine sources of financing for integrated management of water and other natural resources.



- Development of strategies for incorporating environmental and social costs into project management and decision-making (SAP Project No. 10)

The purpose of this activity is to design, formulate, and validate regional criteria, instrumental strategies, and recommendations for generalized incorporation of environmental and social costs into the evaluation of development projects, using methodologies that will assign proper value to natural resources and services. On the basis of an analysis of the current situation in the region, methodological guidelines will be developed and applied to case studies embracing the SAP portfolio, representative in terms of their characteristics and location, as a basis for advancing the discussion and validation of criteria and formulation of recommendations for implementation of such criteria throughout the Basin during subsequent phases of this project.

The estimated cost of Activity 1.2 is US\$1,929,500 (GEF: US\$882,400; co-financing US\$1,047,100).

## **B. COMPONENT II: ENVIRONMENTAL PROTECTION AND REHABILITATION**

6. Component II is designed to extend the implementation of feasible measures of Basin management identified during formulation of the SAP. Together with the institutional initiatives to be undertaken as part of Component I, the three activities programmed for this component will deal with specific transboundary aspects identified in the TDA. In particular, the actions planned focus on soil management and sediment-transport control, either by means of feasible specific prevention and control measures or by preserving the natural landscape in critical erosion-prone areas through the consolidation of protected areas. Complementary basic natural resource studies, and the maintenance of the quality of the Basin's water resources, are part of this component.

### **Activity 2.1. Soil management and erosion control in critical areas**

The TDA identified several regions and subbasins of the Bermejo River Basin, such as those in the Central Valley of Tarija, the sub-Andean or *Yungas* region, and the Iruya River and Río Grande watersheds in the Upper Basin, as critical areas in terms of current or threatened erosion, current and potential contribution to the production and transport of sediments, and loss of productive soils. The SAP calls for the adoption of appropriate measures, both structural and non-structural (farming, ranching and forestry practices, regulatory frameworks, environmental regulation), to control soil loss through a focus on watershed management. This activity, which will extend and transfer the implementation of feasible measures for erosion control in the Upper Bermejo River Basin, identified and proved effective during the SAP formulation phase, will promote greater use of soil-management practices that minimize degradation and the risk of destabilization. The results of these efforts will encourage broader application of these management practices and thereby contribute to sustainable land use (essentially for farming) and to the conservation of areas that, although not yet significantly altered, are at risk from land degradation. A key feature of this activity will include the mitigation of erosion in critical zones

of the Basin. The output of this activity will include the application of recommended soil-conservation and erosion-control measures to limit the loss of soil.

Consequently, the activity includes the following specific actions, among others, identified in the SAP:

- Sediment control in Tolomosa River Basin (SAP Project No. 51)

This activity consists of three components: (i) control of sediments in transit, through the construction of five earthen dikes, 10 gabion dikes with riprap for bank protection, and 160 ha of enclosed areas for natural vegetation regeneration; (ii) protective reforestation over an area of 80 ha, and (iii) management and conservation of 600 ha of farmland and rehabilitation of dry-land farming areas in the Rio Mena subbasin. This project is intended to control sediments in transit and to apply erosion control techniques to reduce silting in the reservoir of San Jacinto, the principal water resource in this area, and to reduce loss of arable soils in the Mena River subbasin. It will draw upon experience with erosion control practices gained during the formulation phase of the SAP.

- Integrated management of natural resources of Santa Ana River Basin (SAP Project No. 55)

This activity consists of a series of works and activities: (i) regulation of water flows in micro basins tributary to, and in the main channel of, the Santa Ana River, for irrigation purposes; (ii) soil management, conservation, and rehabilitation practices; (iii) restoration of vegetation; (iv) livestock management; and (v) consolidation of grass-roots institutions through public participation. The initial stage will see the execution of a project in the Gamoneda River subbasin. Integrated basin-management techniques will be developed and applied with a view to ensuring environmental sustainability and improving the living conditions of the local population.

- Integrated management of the Iruya River Basin (SAP Project No. 58)

The valley of the Iruya River contributes nearly 50 percent of all sediments transported by the Bermejo River into the Plata River system. Thus, it is in this valley that the implementation of management measures and practices for controlling the production and transport of sediments will have the greatest influence at the regional level. The objective of this activity is to supplement developments already being undertaken by COREBE to identify, evaluate, and implement methodological approaches and techniques for preserving ecosystems still in their natural state, and for restoring those disrupted by human activity that have a determining influence on the stability of the landscape and on the phenomena of surface erosion and landslides that are characteristic of this region. The result will be a technical and economic assessment, in local and regional terms, of the efficacy of direct interventions, some which were undertaken in the Basin during the formulation stage of the SAP, as well as non-structural measures, to establish criteria for their selection and application in controlling the generation and transport of sediments.

- Management of the Grande River Basin: mapping of the Huasamayo River subbasin (SAP Project No. 59)

This is the first component of a program for the sustainable management of the Grande River Basin, the purpose of which is to reduce the severe erosion from which it currently suffers. This activity will consolidate a comprehensive plan to control soil loss and will comprise structural actions and non-structural management measures, like the construction of small gabion dikes, protective forested areas, and sustainable farmland practices.

The estimated cost of Activity 2.1 is US\$2,134,200 (GEF: US\$1,327,400; co-financing US\$806,800).

### **Activity 2.2. Consolidating protected areas and protecting biodiversity**

This activity is intended to protect biodiversity through the consolidation and development of protected areas, the conduct of basic studies on natural resources, and implementation of a pilot-scale project on carbon fixation. The SAP concluded that the best way to preserve the remaining areas of natural habitat in the region would be to create integrated, community-based units within the Bermejo River Basin to serve the ecotourism market, both domestic and international. At the same time, it called for the creation of a growing number of clearly defined areas where human activity can be conducted in ways that will not damage natural resources. Previous experiments by both governmental and nongovernmental agencies, including those carried out during the SAP formulation phase, suggest the use of buffer zones as a means of reducing the human impact on ecosystems. The creation of environmental corridors linking areas of significant habitat value has also been shown to be successful in maintaining migratory routes that have been disrupted by human activities. This activity, therefore, will encourage the establishment of buffer zones and environmental corridors, and will sponsor basic studies on natural resources, including pilot demonstration projects that promote effective ways of restoring degraded environments, preserving environments adjacent to nature conservation areas and protecting biodiversity, while at the same time promoting sustainable development for local communities. This activity will also help to transfer experience gained in two other natural areas of the Yungas cloud-forest region of Argentina and Bolivia and to design strategies for extending them to other natural areas of the Lower Basin. The results of the project will be the introduction of management programs for the development of protected areas and buffer zones in the vicinity of the national parks and reserves of Calilegua, Campo El Rey, Baritú, Tariquia, and Sama, and will promote ecotourism as a form of sustainable development in those areas, within a framework of sustainability and protection of biodiversity. The output of the activity will include actions to enhance carbon fixation in cloud-forest zones. This activity also will provide specific support for developing the Transboundary Biological Corridor of Baritú-Tariquia-Calilegua. Consequently, the activity will include the following specific activities, among others, identified in the SAP:

- Introducing alternative forms of ecotourism in piedmont transition forests in the vicinity of the El Rey and Calilegua national parks (SAP Project No. 14)

This activity consists of two elements, distinct but intimately linked. The first element includes the monitoring and evaluation of alternative ecotourism uses in the area surrounding the El Rey National Park, initially identified during the SAP formulation stage. The second element consists of identifying, designing, and implementing alternatives for sustainable use of the buffer zone surrounding the Calilegua National Park for ecotourism. Both of these elements envision, among other things, the introduction of ecotourism as a sustainable alternative to traditional productive practices, by incorporating the montane *selvas*, in particular the transition forests, into the tourism market, and by encouraging conservation-oriented management practices that will consolidate the buffer zones surrounding existing protected areas.

- Carbon fixation in the Yungas (SAP Project No. 16)

The progressive reduction of green biomass in the Basin is reducing the photosynthetic capacity of the area and hence the ability of plants to fix carbon, an element that is becoming increasingly concentrated in the upper layers of the atmosphere and identified as causing environmental imbalances that are well known to the international community. In addition, the loss of biomass encourages land degradation more directly within the Bermejo River Basin by diminishing the reserves of organic carbon and reducing vegetative land cover, thereby further limiting the ability of the soils in the Basin to resist erosion.

During the first phase of the project, this activity will investigate the current ecological status of natural habitats in the Yungas (in the Upper Basin of the Bermejo River) and the design of a pilot project for protection, conservation, natural resource management, and rehabilitation of degraded habitats in this ecologically sensitive portion of the Basin. A second and more important element of this activity will implement this pilot plan in a selected representative area. The project will be located in one of the major water-supply zones of the Basin and will be aimed at increasing the carbon-fixation capacity of the area through the use of sustainable production practices, the regulated use of natural resources, and the application of techniques for the protection, conservation, management, and rehabilitation of natural habitats.

- Biodiversity study (SAP Project No. 17)

This activity is intended to improve the state of knowledge about biodiversity in the Upper Bermejo Basin, to determine the conservation status of the principal ecosystems, to identify problems affecting the biota, and to propose lines of action for its conservation and management. The activity will be based on earlier studies conducted during the formulation phase of the SAP, and on other existing studies in the region.

- Implementation of the Baritú-Tariquía-Calilegua biological corridor (SAP Project No. 20)

The purpose of this activity is to ensure the physical continuity of the protected areas currently included in the Baritú Park in Argentina and the Tariquia Reserve in Bolivia. Through the integrated management of the natural resources of these protected areas, a representative portion of the Tucumán-Bolivian *selva* will be protected. The activity includes

the legal and administrative consolidation of the biological corridor and the implementation of an integrated management program for natural resources in the region surrounding the corridor through actions of protection, economic support, education and environmental health education, research, and institutional strengthening. The corridor area includes the Tariquia Reserve, the Baritú Park, the Calilegua Park and the intervening zone on both sides of the border.

- Zoning and management plan for the Sama and Tariquia Reserves (SAP Project No. 19)

This activity consists of carrying out the ecological and socioeconomic studies necessary to establish core guidelines and concrete actions for managing the biological reserves of Sama and Tariquia, in a manner consistent with their objectives and characteristics. The project will develop a proposal for delimiting and reclassifying these reserves, dividing the territory into zones according to their ecological, economic and social characteristics, and preparing a management plan for both reserves. The activity implements lessons learned during the formulation phase of the SAP, and extends the underlying technical and sociological concepts initially identified in the program with respect to the Baritú-Tariquia-Calilegua Ecological Corridor.

- Evaluation of sub-Andean rangelands (SAP Project No. 18)

This is a second and supplementary phase of the pastures study of the Central Valley of Tarija that was initiated during the formulation stage of the SAP. The study extends zoning of the natural pasturelands in the sub-Andean ecoregion (in the upper Bermejo River basin), on the basis of ecological and socioeconomic criteria, quantifying their current condition, their management, and their limitations and potential, and identifies possible sustainable development strategies. Before such strategies, are developed and implemented, basic information for developing sustainable management plans on the natural pasturelands in this ecoregion is required.

- Zoning for the future Teuco National Park (SAP Project No. 22)

This initiative is intended to protect units of the dry Chaco (in the Middle Bermejo River Basin), and is seen as a fundamental step towards establishing the Chaco Biological Corridor identified in the regional biodiversity protection and management plan. The area to be zoned covers 250,000 ha in the provinces of Formosa and Chaco. This area is bisected by the Bermejo River (known as the Teuco River in this stretch). The project will attempt to define the real potential of the sector as a protected natural area and to establish objectives for its conservation, to provide appropriate zoning for the area, to establish recommendations for its management, and to formulate and propose policies for establishing a protected area.

The estimated cost of Activity 2.2 is US\$1,786,000 (GEF: US\$1,295,000; co-financing US \$ 491,000).

### **Activity 2.3. Protection and restoration of water quality**

This activity is intended to restore the quality of water in those critical stretches identified in the Watercourses Classification Study conducted during the SAP formulation phase, focusing on the Guadalquivir River. The activity will implement actions identified during the formulation phase of the SAP by providing support to the efforts of the local institutions responsible for carrying out the core activities. It will be supplemented by the conduct of a planning study for the remediation of watercourses in the vicinity of the city of Bermejo, another critical point of pollution of the water resources in the Upper Basin identified in the SAP. In so doing, this activity will extend and refine the lessons learned in the Guadalquivir River subbasin. It will ultimately have a beneficial effect for the entire Bermejo River Basin. This activity will be complementary to the establishment of a water-quality monitoring network for the Basin. Consequently, the activity includes the following specific actions, among others, identified in the SAP:

- Environmental clean-up of the Guadalquivir River (SAP project No. 43)

This activity comprises the implementation of two pilot-scale wastewater treatment plants in small rural settlements, including the adaptation and dissemination of feasible wastewater treatment technologies, the establishment of a pollution-control system for aquifers, and the formulation of a monitoring plan for wastewater. This activity will assist in the environmental cleanup of the Guadalquivir River, within the context of an activity that takes an integrated approach to this environmental problem identified during the TDA.

- Environmental cleanup study for watercourses in the Bermejo Triangle (SAP Project No. 44)

The activity will consist of analyzing the existing sewage and water treatment system, evaluating the sources and degree of pollution imposed upon the receiving water bodies, and proposing solutions for treating wastewater from the city and the sugar industry. In addition, it will propose solutions for eliminating solid wastes and other pollutants that also degrade the environment, and be accompanied by specific legal provisions relating to the application of environmental controls. The expected outcomes are (i) a diagnosis of the environmental situation of watercourses, primarily those of the El Nueve and El Cinco gorges and the Bermejo River and the Grande de Tarija River, which are affected by industrial and organic pollution; and (ii) the formulation of the final design of an environmental cleanup plan for these watercourses.

The estimated cost of Activity 2.3 is US\$326,500 (GEF: US\$195,000; co-financing US\$131,500).

## **C. COMPONENT III: SUSTAINABLE DEVELOPMENT OF NATURAL RESOURCES**

7. Component III will encourage the implementation of alternative production modes that will be environmentally friendly, or that will at least minimize environmental degradation with a focus on land degradation and soil erosion, while at the same time providing greater economic opportunities for the local population, in a context of integrated management of water resources and sustainable development planning for the Basin as a whole. The initial action under this

component will be to formulate the IWRMP, which will establish, a regional framework for execution of the remaining activities.

**Activity 3.1. Implementation of a planning framework for integrated water resource management and sustainable development in the Bermejo Basin**

This activity is intended to incorporate and strengthen regional practices, procedures, and capacities for programming and planning, thereby addressing one of the basic causes of environmental problems in the Basin as identified by the SAP. In particular, it calls for the formulation and development of an Integrated Water Resource Management and Sustainable Development Plan (IWRMP); which will synthesize the information gathering and dissemination, studies, analyses, sharing of experiences, demonstrations, and evaluations conducted to date or to be undertaken as part of the first stage of implementing the SAP. The results of this activity will provide an agreed planning framework for the sustainable management and development of natural resources, within a regional regulatory context negotiated and supported through a broad process of public participation. It will serve as the basis for extending and deepening strategic efforts and will be a concrete step towards the objectives of the strategic program. The specific output of this activity will be consistent with the IWRMP, structured on the basis of components that address not only the fundamental transboundary issues related to the transport of sediments, water pollution and nature conservation, but also priority actions related to human development and the alleviation of poverty, particularly sustainable production activities for Basin communities. Funding provided for this activity will also be used to establish the Project Executing Units and to support the Binational Commission for the implementation of the IWRMP. The activity includes the following specific actions, among others, identified in the SAP:

- Program for Integrated Management of Water Resources and Sustainable Development in the Bermejo River Basin (SAP Project No. 53)

The purpose of this project is to integrate all the actions undertaken during the first stage of the SAP within a programming framework for the integrated management of the Basin's resources, and to place development initiatives in the context of preventing erosion and pollution and conserving nature. This framework will serve as a basis for decision-making and will establish a threshold of sustainability for development projects undertaken by the various jurisdictions, either individually or jointly. It will serve as a basis of a programming context for actions that will be included in other stages of the SAP, either subsequent or complementary. Activities relating to project coordination and administration, contract monitoring and supervision, and the formation of a basic technical team will use a substantial portion of the financing provided for this project.

The estimated cost of Activity 3.1 is US\$2,675,900 (GEF: US\$1,528,900; co-financing US\$1,147,000).

**Activity 3.2. Sustainable practices for rehabilitation of degraded areas**

The TDA identified human pressures on natural resources as a direct cause of the loss of habitat and biodiversity in the montane systems of the Upper Basin. At the same time, the combination of the tremendous fluvio-morphological dynamics resulting from the transport of sediments originating in the Upper Basin and unsustainable approaches to the management of natural resources in general, and of the land in particular, associated with farming activity have been identified as immediate causes of the problems of lack of access to water resources and degradation of soils in the Chaco, an area of great regional importance in terms of habitat and biological diversity. The SAP recommended both structural and non-structural measures to address erosion risks in the Upper Basin and to control the deposit of sediments, to moderate excessive fluctuations in water flow, and to limit the negative impacts of the invasion of exotic species in this part of the lower basin. The activity will extend and transfer feasible approaches to sustainable economic development resulting from experience during the SAP formulation stage, in the form of pilot projects. These will in turn help to mitigate environmental problems arising from the degradation of forests and soils by human activity. The output of this activity will be the implementation of structural and non-structural practices of agricultural development that will also help to mitigate the impact of agriculture on more than 3,000 degraded hectares within the humid and dry Chaco zones, and 77 sites where, in addition, other practices will be applied to rehabilitate degraded areas, in relation to specific economic sectors. The output of the activity will include the implementation of appropriate pasture and livestock management practices and the development of traditional small-scale crops in the Yungas zones, implementing and/or improving traditional productive systems on a basis that is sustainable from an ecological, economic, and social viewpoint, and will also address land management in typical farm and pasture sites in the humid and subhumid Chaco region of the lower basin, and undertake complementary actions to restore soil productivity. Consequently, among other activities identified in the SAP, the activity includes the following specific actions to implement community-based sustainable management alternatives in these ecoregions of the Chaco:

- Sustainable management alternatives for natural resources in the humid and subhumid Chaco (SAP Project No. 62)

On the basis of experience gained during the formulation stage of the SAP, several institutions have decided to pool their efforts in a joint project, and thereby help to resolve a number of the ecological problems in the humid and subhumid region of the Bermejo River Basin. These actions are aimed at a broad range of producers and problems; they involve essentially the dissemination of sustainable resource management techniques, demonstrating their application in the expectation that the local community will gradually be persuaded to adopt them. Some of the major issues to be addressed by the activity are the restoration of degraded environments in the Lower Basin, the management of forage in humid and subhumid areas, the productive restoration of *vinales*, sustainable management of the agro-silvo-pastoral potential of subtropical zones, sustainable soil management and conservation, and management of excessive and deficient water flows.

- Productive diversification under conditions of sustainability in the Yungas (SAP Project No. 70)



This activity is intended to take advantage of the pilot experiment in the community of Los Toldos, conducted during the SAP formulation phase, by expanding its area of application and by pursuing aspects that were passed over at that time. These latter aspects include sustainable exploitation of the forest on an experimental scale; management of pasture lands and livestock and the development of small-scale traditional crops, to supply a highly selective market; and the generation of employment through existing activities or promising new ones, such as ecotourism. These actions are intended to reduce human pressures on natural forest resources by diversifying the productive options open to rural families in ways that will reduce their transformation of the forest, integrate them into the regional market, generate local employment opportunities, and promote sustainable land use techniques within the parameters of multiple use of mountainous areas of the upper Bermejo River basin.

**The estimated cost of Activity 3.2 is US\$2,393,100 (GEF: US\$846,000; co-financing US\$1,547,100).**

**Activity 3.3. Community extension programs for sustainable production and natural resource management**

The TDA found a high incidence of subsistence-level exploitation of natural resources in some areas of the Bermejo River Basin. Given the high population growth rates and the vulnerability of the natural resource base in these areas, these levels of exploitation are clearly unsustainable. The SAP therefore recommended efforts to promote sustainable forms of production based upon a community approach. This activity will identify current subsistence practices in these communities and will introduce programs designed to encourage the adoption of sustainable water and soil management practices. Using the knowledge gained during the formulation stage of the SAP, this activity will contribute to the protection of water and soil resources, including native fauna, particularly fish, in the natural ecosystems of the Bermejo River, while at the same time helping to satisfy the demand for food, fuel, and shelter in rural communities. The output of this activity will contribute to developing a basic understanding of the extent and impact (or lack thereof) of subsistence farming and fishing activities in the Basin, identifying alternatives to unsustainable exploitation of natural resources, and carrying out community extension programs in specific areas of the Basin to introduce sustainable alternatives to the current practices of these subsistence communities. The experience gained will lay the basis for future sustainable development of the most vulnerable communities in the region. The outputs of this activity will include documented information on the extent of subsistence farming and fishing activities in the basin, a documented program of information dissemination for improving local understanding of sustainable farming and fishing practices, and community extension projects in selected places within the basin. Consequently, the activity will include the following specific actions, among others, identified in the SAP:

- Implementing water and natural resource management practices that are consistent with traditional practices in the basin (SAP Project No. 72)

The purpose of this activity is to recognize the value of traditional cultural manifestations typical of the region with respect to managing water and other natural resources so that

subsistence communities will adopt them as valid practices for sustainable management. To this end, a cultural survey of the region will be undertaken. The most promising manifestations will be applied in pilot projects, with the participation of the communities concerned, and an action program will be prepared and implemented to promote the appreciation, dissemination, and application of traditional practices and manifestations most suitable for the sustainable management of natural resources.

- Sustainable rural development in indigenous and native communities (SAP Project No. 133)

This activity is intended to improve living conditions among indigenous Wichi and native communities, through sound management of agro-silvo-pastoral systems and greater awareness of sustainable resource management.

The estimated cost of Activity 3.3 is US\$340,200 (GEF: US\$194,200; co-financing US\$146,000).

#### **Activity 3.4. Sustainable agriculture and soil conservation practices along the San Jacinto project area**

This activity relates to the use of natural resources in a sustainable manner. A demonstration project will be undertaken in areas recently brought under irrigation within the San Jacinto project area in an effort to optimize soil and water use, control soil loss in and around areas under cultivation, and at the same time enhance the productivity of economic activities. The results of this experiment will be extrapolated to other zones with similar characteristics within the Upper Basin. Consequently, the activity includes the following strategic actions:

- Systematization of irrigated areas of the San Jacinto project (SAP Project No. 150)

The Land Systematization component of the San Jacinto Project includes the development and implementation of technological packages for soil and water management in irrigated farming areas and the management of marginal lands within the project's area of influence. The project calls for optimizing soil and water utilization in order to enhance the productivity of farming, and to control erosion in lands next to cultivated areas. The experience gained will be disseminated to other irrigated areas that are similarly vulnerable to soil loss.

The estimated cost of Activity 3.4 is US\$243,000 (GEF: US\$160,000, co-financing US\$ 83,000).

#### **Activity 3.5. Securing of financial resources for the Bermejo River Basin**

The objective of this activity is to convene meetings with representatives of local, regional and international financing agencies to explore jointly the possibilities of allocating funds to SAP proposals and other complementary actions/initiatives oriented towards the sustainable development of the Bermejo Basin, concerning the amelioration of quality of life, the alleviation of poverty, the improvement of health, and the preservation of indigenous cultural heritage,

among other aspects, and of promoting a progressively increasing and long-term involvement of these agencies in the overall development of the Basin. Representatives of the agencies responsible for technical and financial aspects of these proposals, actions, and initiatives will also participate in the meetings. Both governments have initiated actions at the national level with the Inter-American Development Bank, seeking to obtain its participation as lead agency in the organization and implementation of the meetings, which is planned to be held in the region during the first year of the project's implementation.

The estimated cost of Activity 3.5 is US\$350,000 (GEF: US\$300,000, co-financing US\$ 50,000).

#### **D. COMPONENT IV: PUBLIC AWARENESS, PARTICIPATION, AND REPLICATION OF PROJECT ACTIVITIES**

8. This component embraces activities to identify and coordinate the interests of people and organizations with economic and/or institutional responsibilities in the basin, including the agricultural and industrial sectors. Access to information is an essential part of this process of encouraging and effectively enhancing the interest of local stakeholders in sound management of the basin's natural resources. To this end, a central element of this component will be to inform the citizenry in the Basin through an integrated program of environmental education, institutional transparency, and exchange of information among communities, organizations, and government entities. Building on the achievements of the SAP formulation phase, further development of identified participatory mechanisms during the implementation phase will lay the groundwork for extending the Project findings into the entire Plata River Basin. Activities are considered within this component that will identify mechanisms to promote the sharing of experiences, and engender international and regional cooperation, in order to enhance synergies at the broader level of the Plata River Basin.

##### **Activity 4.1. Environmental education programs**

The SAP identified the need for community-level environmental education programs as key elements in the support of sustainable programs for protecting and rehabilitating the environment and promoting economic development. This activity continues and extends this community focus throughout the Bermejo River basin. It will also contribute to the development and distribution of curricula and materials for use in training teachers, and will include community and private sector initiatives in the scope of educational programming. One element of this activity is specifically designed to improve educational opportunities in the most vulnerable communities. Results of this activity will not only increase awareness among communities in the basin, but will also help them, through the local schools, to understand ways of improving their living standards and bringing about positive environmental change at the local level. The output of the activity will include the preparation of appropriate curricula at the various educational levels, publicity materials for promoting public awareness, and materials and manuals for use in teaching and teacher training. Consequently, the activity includes the following specific actions, among others, identified in the SAP:

- Promotion of environmental education activities in the basin (SAP Project No. 129)

This activity will implement a comprehensive program of efforts to promote environmental education (awareness, training, and formal and informal education) relating to the sustainable use of water and other natural resources, geared to the different ecological regions of the Bermejo River Basin, and also to promote awareness and understanding among the various stakeholder groups—social, political, and economic—about the environmental consequences of improper use of natural resources and the impact of human activities through workshops, seminars, meetings, bibliographies, manuals, brochures, the mass media, etc. One of the principal focuses of the program will be on teachers, because of the proven multiplying effect they can have on students, parents, and the community as a whole. Another important focus is on working jointly with local governments, grassroots organizations, and producers' groups, as well as with private landowners. In Bolivia, the program will address issues of environmental legislation, ecology, biology, erosion control, land clearing, fire, environmental pollution, and low-impact practices in the agricultural, livestock, and forestry industries. In Argentina, the program will address the development of environmental awareness, based on promoting a sense of appreciation and protection of the native forest among teachers, students, and the aboriginal community in different regions of the Basin. This portion of the activity will focus on schools and producers' organizations to publicize experiences gained during the formulation stage of the SAP. It will also foster discussion forums to enhance environmental awareness about the rational and sustainable use of water, through interaction among the various institutions involved in farming and irrigation activities and training for environmental promoters, thereby incorporating elements of SAP Projects No. 128, No. 130, and No. 131.

The estimated cost of Activity 4.1 is US\$1,166,000 (GEF: US\$509,000; co-financing US\$657,000).

#### **Activity 4.2. Public participation program**

The formulation process for the SAP has generated expectations among stakeholders in the Basin, who recognize that public participation in establishing priorities and implementing new practices is essential for improving the management of water and environmental resources. The basic elements for ensuring the commitment of local stakeholders are information, education, and the establishment of suitable mechanisms for public participation. To this end, this activity will seek to stimulate public participation in environmental management of the Bermejo River basin by disseminating information to communities and organizations through a variety of means, including public hearings, community-based legislative initiatives, environmental education courses, consultation and mobilization workshops, capacity strengthening programs, and use of the mass media (radio, television, Internet, newspapers). This information will help to build a basic awareness so that individuals, organizations, and businesses will become engaged in the decision-making process. This activity will develop guidance materials for implementing public participation processes at different levels of government, to increase public awareness and to provide the means for the public to contribute to environmental management. The results of this activity will enhance general environmental management by involving a broad population base in the process. The outputs will include a documented system of public participation, supported by suitable course materials and general information brochures, and acceptance of public

participation as a working methodology and philosophy in implementing SAP projects. The activity includes specific actions identified in the SAP for undertaking a public participation program (SAP Project 126). The estimated cost of Activity 4.2 is US\$532,300 (GEF: US\$307,300; co-financing US \$ 225,000).

### **Activity 4.3. Information system for the Bermejo River basin**

The SAP identified the need to acquire and disseminate information at two levels within the Basin: technical information among water resource professionals at all governmental levels involved in the use and management of the waters of the Bermejo River, and information of more general interest for the public and other interested entities. Information of the first type includes data on weather and rainfall, water quality and sediments, hydrogeological information, land use, environmental data, legal information, socioeconomic data, information on economic development indicators, local information on specific sites, financial data, and other types of information useful for professional monitoring. Information of the second type includes aspects of community interest, notices of events and activities and useful information for individuals, businesses and civil society organizations, including NGOs. This information will foster institutional transparency, stimulate informed participation in community decision-making, and help to standardize practices among professionals and jurisdictions, within the Basin and beyond it in the broader context of the Plata River system. A prerequisite for establishing this exchange of information is the creation of an information system. The initial step in so doing will be to identify potential sources of information, nodes, and users in the basin. This activity complements a proposed medium-scale project to be financed by the GEF for the Upper Paraguay River Basin (SIAP, Environmental Information System for the Upper Paraguay) to be developed by Bolivia, Brazil, and Paraguay. The result of this activity will be to extend the SIAP or an equivalent information system to the Bermejo River Basin. The output of the activity will include documented user groups including a catalogue of information needs, environmental monitoring sites with suitable links to the information system, a regional information system in GIS environment, and one or more pilot-scale satellite information systems accessible to water management professionals and to the community. An integral aspect of this latter output will be a negotiated operating protocol to establish ownership over user rights, suitable levels of access to information, and associated operational details. A further product of this activity will be to create a supervisory or management committee to operate the information system within the context of the Binational Commission.

Funding is required to create an environmental information and monitoring system, as a mechanism for supplying a broad range of information on water and natural resources to a wide variety of stakeholders, ranging from civil society to government agencies, within the Bermejo River basin. The system is planned to provide the grounds for building and monitoring specific indicators related to sustainable development and environmental status, including land use and natural resources degradation and restoration trends in the Basin. The implementation of the SAP, and project achievements, also will be subject to monitoring based on the indicators to be identified at the time this project is implemented. The activity includes the following specific actions, among others identified in the SAP.

- Access to information in support of public participation (SAP Project No. 136)

The purpose of this activity is to prepare recommendations and strategies for establishing and applying mechanisms to ensure that civil society has access to information on water, natural resources, and development projects, including the identification of the necessary regulatory frameworks and institutional structures. The current situation within the region will be analyzed, and guidelines will be formulated to ensure the flow of information and to identify focal points for providing that information. Case studies will be used to assess technical, institutional, and legal possibilities and difficulties for establishing one or more selected mechanisms, and on this basis general recommendations will be formulated and strategies will be proposed for generalized implementation across the different jurisdictional levels of the basin.

- Developing networks and mechanisms of articulation among the various economic sectors and jurisdictional authorities in the basin (SAP Project No. 5)

The purpose of this activity is to promote the development of networks and other mechanisms for sectoral and interjurisdictional articulation as instruments for coordinating efforts at sustainable management among the different economic sectors and among the various jurisdictional authorities in the basin. To this end, priority interest groups and appropriate articulation mechanisms will be identified, examined and recommended. Selected activities of articulation and coordination will be conducted in regional workshops.

- Developing and implementing an environmental information and monitoring system for the Bermejo River basin (SAP Project No. 6)

This activity will implement an environmental information system for the basin as a whole, embracing activities in the area of generating, acquiring, processing and storing information on the status and use of the basin's natural resources. To this end, an environmental monitoring network will be designed for the Bermejo River basin, to cover data on climate, sediments, the volume and quality of water in the different rivers of the basin, the state and dynamics of vegetation cover, the process of soil erosion, socioeconomic aspects and others. The GIS database developed during the formulation phase of the SAP will be strengthened and extended, and information will be made available to different users. Efforts will also be made to strengthen and coordinate activities among the responsible entities.

- Definition and adoption of IW indicators

This activity includes the organization and implementation of five (5) regional technical workshops for the definition and adoption of a set of (1) process indicators (focusing on the processes that will lead to desirable results), (2) stress reduction indicators (focusing on actions with defined targets that will reduce the environmental stress on the waterbody), and (3) environmental status indicators (focusing on the actual improvement of the ecosystem quality). Two workshops would be held at the inception of the project to define and adopt the

indicators, two during project implementation to monitor the indicators, and one towards the end of the project execution to conclude on the matter.

The estimated cost of Activity 4.3 is US\$2,281,600 (GEF: US\$1,143,400; co-financing US\$1,138,200).

#### Activity 4.4. Replication of project activities

Outputs, findings, and lessons learned during the SAP formulation process demonstrated the feasibility of integrated and participatory approaches for strategic programming of water resources and land-use management at the Basin level. Although different in scope and intensity, many of the environmental problems, transboundary manifestations and basic root causes identified in the Bermejo Basin are common in other regions of the Plata River Basin. Therefore, this activity will seek to extend the methodological approach, findings, and recommendations of the Bermejo project to these areas, contributing to promote a larger-scale and Basin-wide strategic framework to address main environmental degradation processes, including the identification of critical transboundary issues and definition of priority actions at the national and multi-national level. The estimated cost of Activity 4.4 is US\$850,000 (GEF: US\$700,000; co-financing US\$150,000).

- Dissemination and replication of the Bermejo Project into the broader context of the Plata Basin

This incorporates activities to support the dissemination of SAP methodological approaches, findings and outputs beyond the Bermejo region and into the broader context of La Plata River Basin, as a means to promote the formulation of the Basin-wide strategic framework. For dissemination activities in Argentina and Bolivia, the Binational Commission will directly coordinate actions with national agencies. For activities involving other countries of the Plata River Basin, the Binational Commission, through the Ministries of Foreign Affairs of both countries, will coordinate actions with the Intergovernmental Committee of the Plata River Basin (CIC) and with other bilateral or multilateral basin organizations, such as the Pilcomayo Trilateral Commission. The Activities include: (1) the preparation of Bermejo project materials in various media (documents, CD, video, Internet Web sites) for wide distribution in the region, with special consideration to materials that may be used in training courses, seminars, workshops, specialized journals, and social-communication media; (2) the presentation of Bermejo SAP Project in national and regional technical meetings related to water resources and environmental management currently held in the Basin; (3) the organization and conduct of seminars and workshops to present Bermejo SAP experience and promote the replication of the project's methodology, leading to the identification of environmental problems, transboundary manifestations, basic causes, strategic framework, and priority actions, including the participatory approach to strategic programming of shared waters resources. As long as this activity is carried out, criteria and guidelines for planning and implementing replication activities in the broader context of La Plata River Basin will be identified.

9. Table I.1 presents an indicative work schedule, according to which the project will be implemented over a period of four years. It should be noted that the specific activities can be initiated at any time within the six months preceding, the date specified in the table provided that the human and financial resources and the required information are available. Moreover, it is expected that each activity can be executed within a period of at least one year.

10. The total cost of the project is estimated to be US\$18,830,000. The total cost of the baseline situation, without funding from the GEF, is US\$8,430,000. In addition, an amount of more than US\$500 million is included for investment in the Bermejo River basin, in the form of various reimbursable loans that are now administered by the Inter-American Development Bank, the World Bank, and other bilateral governmental cooperation agencies (see Annex H). These funds may be considered as part of the financial baseline, according to the present agreements. It is assumed that these investments represent the total value of the national benefits produced by the project and that they will be specifically applied to deal with such aspects as effluent treatment, flood management and domestic water supply (see Annex A). For the alternative project, a total of US\$8,430,000 would be contributed by the governments of Argentina and Bolivia, local provinces and prefectures, and other public and private sources in support of new initiatives to be incrementally funded through the GEF. Financing by other international institutions amounts to US\$300,000, composed of funds administered by UNEP (US\$150,000 in kind) and by the OAS (US\$150,000 in kind). The incremental contribution requested from the GEF is US\$10,400,000. Additional funding from the GEF will be applied specifically to catalyze such activities as developing an effective organization for the basin, mitigating and preventing soil degradation, and controlling and minimizing degradation of water quality. Table I.2 summarizes the application of GEF funds in both countries. Table I.3 provides further breakdown for GEF funding and non GEF funding per activity and per country.



**Table IX.1 Indicative Work Schedule showing estimated execution periods for project components**

Activity/Semester	1	2	3	4	5	6	7	8
Steering Committee meetings	◆	◆	◆	◆	◆	◆	◆	◆
1.1 Development and strengthening of institutional framework								
1.2 Regional legislative, economic, and environmental framework								
2.1 Soil management and erosion control in critical areas								
2.2 Consolidating protected areas and protecting biodiversity								
2.3 Protection and restoration of water quality								
3.1 Implementation of a planning framework								
3.2 Sustainable practices for rehabilitation of degraded areas in Chaco and Yungas regions								
3.3 Community extension programs for sustainable production and natural resource management								
3.4 Sustainable agriculture and soil conservation practices along the San Jacinto project area								
3.5 Procurement of financial resources for the Bermejo Basin		◆						
4.1 Environmental education programs								
4.2 Public participation program								
4.3 Information system								
4.4 Replication of project activities								

**Table IX.2 Indicative distribution of project funding by country (Million US\$)**

ACTIVITY	GEF			GOVERNMENTS			TOTAL
	Argentina	Bolivia	Total	Argentina	Bolivia	Total	
1.1 Development and strengthening of institutional framework	0.52	0.49	1.01	0.67	0.14	0.81	1.82
1.2 Regional legislative, economic, and environmental framework	0.67	0.21	0.88	0.47	0.57	1.05	1.93
2.1 Soil management and erosion control in critical areas	0.42	0.90	1.32	0.32	0.49	0.81	2.13
2.2 Consolidating protected areas and protecting biodiversity	0.30	1.00	1.30	0.21	0.28	0.49	1.79
2.3 Protection and restoration of water quality	0.00	0.20	0.20	0.00	0.13	0.13	0.33
3.1 Implementation of a planning framework	0.93	0.60	1.53	0.63	0.51	1.14	2.67
3.2 Sustainable practices for rehabilitation of degraded areas in Chaco and Yungas regions	0.85	0.00	0.85	1.55	0.00	1.55	2.40
3.3 Community extension programs for sustainable production and natural resource management	0.19	0.00	0.19	0.15	0.00	0.15	0.34
3.4 Sustainable agriculture and soil conservation practices along the San Jacinto project area	0.00	0.16	0.16	0.00	0.08	0.08	0.24
3.5 Procurement of financial resources for the Bermejo Basin	0.15	0.15	0.30	0.025	0.025	0.05	0.35
4.1 Environmental education programs	0.31	0.20	0.51	0.53	0.13	0.66	1.17
4.2 Public participation program	0.21	0.10	0.31	0.15	0.07	0.22	0.53
4.3 Information system	0.89	0.25	1.14	1.00	0.14	1.14	2.28
4.4 Replication of project activities	0.35	0.35	0.70	0.075	0.075	0.15	0.85
<b>Total</b>	<b>5.80</b>	<b>4.60</b>	<b>10.40</b>	<b>5.79</b>	<b>2.64</b>	<b>8.43</b>	<b>18.83</b>

**Table IX.3 STRATEGIC ACTION PROGRAM FOR THE BINATIONAL BERMEJO RIVER BASIN**  
**PROJECT BUDGET AND FINANCING (Thousands US\$)**

COMPONENT	ACTIVITY	PROJECT	GEF			GOVERNMENT			TOTAL	
			ARG.	BOLIVIA	TOTAL	ARG.	BOLIVIA	TOTAL	PARTIAL	GLOBAL
<b>I</b> INSTITUTIONAL DEVELOPMENT AND STRENGTHENING FOR INTEGRATED WATER RESOURCES PLANNING AND MANAGEMENT	1.1 Development and strengthening of the institutional framework	P1 Institutional development and strengthening of the Binational Commission	269.59	100.00	369.59	194.80	58.40	253.20	622.79	1,824.54
		P.2 Institutional development at basin level in Argentina	0.00	0.00	0.00	148.10	0.00	148.10	148.10	
		P.8 Institutional strengthening for gov. and civil society organizations	255.45	390.00	645.45	326.20	82.00	408.20	1,053.65	
	1.2 Development of a holistic regional legislative, economic and environmental framework	P.3 Development and harmonization of political and legal frameworks	297.50	10.00	307.50	191.90	35.00	226.90	534.40	1,929.54
		P.7 Environmental zoning and land-use regulation	218.80	200.00	418.80	140.20	539.00	679.20	1,098.00	
		P.9 Strengthening and developing economic instruments	64.50	0.00	64.50	26.60	0.00	26.60	91.10	
		P.10 Incorporation of environmental and social costs.	91.64	0.00	91.64	114.40	0.00	114.40	206.04	
	2.1 Soil management and Erosion control in critical areas	P.51 Sediment control in the Tolomosa river basin	0.00	500.00	500.00	0.00	363.00	363.00	863.00	
		P.55 Integrated management of natural resources of Santa Ana River basin	0.00	400.00	400.00	0.00	120.00	120.00	520.00	
		P58 Integrated management of the Iruya river basin	277.40	0.00	277.40	223.80	0.00	223.80	501.20	

**Table IX.3 STRATEGIC ACTION PROGRAM FOR THE BINATIONAL BERMEJO RIVER BASIN**  
**PROJECT BUDGET AND FINANCING (Thousands US\$)**

COMPONENT	ACTIVITY	PROJECT	GEF			GOVERNMENT			TOTAL	
			ARG.	BOLIVIA	TOTAL	ARG.	BOLIVIA	TOTAL	PARTIAL	GLOBAL
II ENVIRONMENTAL PROTECTION AND REHABILITATION		P59 Management of the Grande river basin: mapping of the Huasamayo river sub-basin	150.00	0.00	150.00	100.00	0.00	100.00	250.00	2,134.20
	2.2 Consolidating protected areas and protecting biodiversity	P.19 Management plan for the Sama and Tariquía Reserves	0.00	100.00	100.00	0.00	43.00	43.00	143.00	1,786.00
		P.17 Biodiversity study	0.00	150.00	150.00	0.00	28.00	28.00	178.00	
		P.18 Evaluation of sub-andean rangelands	0.00	45.00	45.00	0.00	20.00	20.00	65.00	
		P.14 Ecotourism activities in piedmont transition forest	200.00	0.00	200.00	130.00	0.00	130.00	330.00	
		P.16 Carbon fixation in the Yungas	0.00	400.00	400.00	0.00	103.00	103.00	503.00	
		P.20 Implementation of the Baritú-Tariquía-Calilegua-biological corridor	76.00	300.00	376.00	55.00	90.00	145.00	521.00	
		P22 Zoning for the future Teuco National Park	24.00	0.00	24.00	22.00	0.00	22.00	46.00	
	2.3 Protection and Restoration of water quality	P.43 Environmental clean-up of the Guadalquivir River	0.00	150.00	150.00	0.00	120.00	120.00	270.00	326.50
		P.44 Environmental clean-up study in the Bermejo Triangle	0.00	45.00	45.00	0.00	11.50	11.50	56.50	

**Table IX.3 STRATEGIC ACTION PROGRAM FOR THE BINATIONAL BERMEJO RIVER BASIN**  
**PROJECT BUDGET AND FINANCING (Thousands US\$)**

COMPONENT	ACTIVITY	PROJECT	GEF			GOVERNMENT			TOTAL	
			ARG.	BOLIVIA	TOTAL	ARG.	BOLIVIA	TOTAL	PARTIAL	GLOBAL
<b>III</b> SUSTAINABLE DEVELOPMENT OF NATURAL RESOURCES	3.1 Implementation of a planning framework for integrated water resource management	P.53: Program for integrated management of water resources and Sustainable Development	928.90	600.00	1,528.90	634.00	513.00	1,147.00	2,675.90	2,675.90
	3.2 Sustainable practices for rehabilitation of degraded areas	P.62 Sustainable management alternatives for natural resources in the humid and sub-humid Chaco	606.00	0.00	606.00	1,129.10	0.00	1,129.10	1,735.10	2,393.10
		P.70 Productive diversification under conditions of sustainability in the Yungas	240.00	0.00	240.00	418.00	0.00	418.00	658.00	
	3.3 Community extention programs for sustainable production and natural resource management	P.72 Implementing water and natural resource management practices	164.20	0.00	164.20	116.00	0.00	116.00	280.20	340.20
		P.133 Sustainable rural development in indigenous and native communities	30.00	0.00	30.00	30.00	0.00	30.00	60.00	
	3.4 Sustainable agriculture and soil conservation practices	P.115 Systematization of irrigated areas of the San Jacinto project	0.00	160.00	160.00	0.00	83.00	83.00	243.00	243.00
	3.5 Procurement of financial resources for the Bermejo river basin	Donor/round table meeting	150.00	150.00	300.00	25.00	25.00	50.00	350.00	350.00

**Table IX.3 STRATEGIC ACTION PROGRAM FOR THE BINATIONAL BERMEJO RIVER BASIN**  
**PROJECT BUDGET AND FINANCING (Thousands US\$)**

COMPONENT	ACTIVITY	PROJECT	GEF			GOVERNMENT			TOTAL		
			ARG.	BOLIVIA	TOTAL	ARG.	BOLIVIA	TOTAL	PARTIAL	GLOBAL	
<b>IV PUBLIC AWARENESS PARTICIPATION AND REPLICATION</b>	4.1 Enviromental education programs	P.129 Promotion of environmental education activities in the basin	309.00	200.00	509.00	530.50	126.50	657.00	1,166.00	1,166.00	
	4.2 Public participation program	P.126 Public participation program	207.30	100.00	307.30	153.00	72.00	225.00	532.30	532.30	
	4.3 Information System for the Bermejo River Basin	P.136 Access to information in support of public participation	P.5 Developing networks and mechanisms of articulation	58.00	5.00	63.00	20.20	4.50	24.70	87.70	2,281.60
			P.6 Environmental Information System of the Bermejo River Basin	110.50	5.00	115.50	76.60	3.90	80.50	196.00	
			P.138 Definition and adoption of IW indicators	624.90	140.00	764.90	905.00	128.00	1,033.00	1,797.90	
	4.4 Replication of project activities	Dissemination and replication of the Bermejo Project into the Plata Basin	P.138 Definition and adoption of IW indicators	100.00	100.00	200.00	0.00	0.00	0.00	200.00	2,281.60
				350.00	350.00	700.00	75.00	75.00	150.00	850.00	850.00
			<b>5,803.60</b>	<b>4,600.00</b>	<b>10,403.60</b>	<b>5,785.40</b>	<b>2,643.80</b>	<b>8,429.20</b>	<b>18,832.80</b>	<b>18,832.80</b>	

## ANNEX X

### SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM SCOPE AND LOCATION

#### SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
<b>A. INSTITUTIONAL DEVELOPMENT</b>						
<b>a.1 Adapting and Strengthening the Binational Commission</b>						
1	Basin	Institutional development for basin-wide integrated, interjurisdictional, binational management.	Establishment of an interjurisdictional mechanism for coordination, programming, and control within the arena of the Binational Commission. Extension of the BC's jurisdiction to the entire basin. Design of a basin -wide interjurisdictional entity, and consensus-based strategy for its introduction. Trained personnel and technical equipment for operations.	Provinces Prefecture of Tarija BC* <sup>5</sup> For. Aff.	PROFILE	570.000
2	Basin	Institutional development for basin-wide integrated, interjurisdictional management in Argentina.	Consolidation of a basin -wide interjurisdictional entity in Argentina. Trained personnel and technical equipment for operations.	Provinces, COREBE, Nation	PROFILE	150.000
<b>a.2 Development and Harmonization of the Regulatory Framework for the Sustainable Use and Conservation of Natural Resources</b>						
3	Basin	Development and harmonization of legal frameworks for the sustainable management of water resources.	Identification and recommendation of strategies for establishing common environmental quality goals and policies. Joint technical proposals at the interjurisdictional level in Argentina and at the binational level on basic issues for the sustainable management of water resources.	BC** <sup>6</sup> , prov. WR and NR/Environ Org., reg. & nat. technical institutes	PROFILE	534.000
4	Basin	Harmonization of the legal frameworks set by Argentina's provincial jurisdictions.	Regional agreement on guidelines for harmonizing provinces' legal frameworks, particularly their laws dealing with the environment, water codes and laws, and environmental impact assessment provisions.	COREBE* <sup>6</sup> , prov. WR and NR/Environ Org., Prov. Legislatures	FD / P	180.000
<b>a.3 Implementation of Mechanisms for Coordination and Sectoral and Jurisdictional Interconnections</b>						

4 Includes agencies, organizations, and institutions that are executing, proposing, participating in, or interested in the project.

5 BC\*\* refers to the Binational Commission after implementation of the interjurisdictional coordination mechanism.

6 COREBE\* refers to that regional agency after becoming the interjurisdictional entity for the basin in Argentina.

## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
5	Basin	Development and implementation of networks and/or effective mechanisms for sectoral and jurisdictional coordination and interconnection in the Bermejo Basin.	Interconnection of interest groups at the basin level. Two regional workshops for each interest group carried out.	BC** WR, NR/Env. Education, S&T, jurisdictional., Universities, Educ. Estab., Civil Society Orgs.	PROFILE	195.000
<b>a.4 Implementation and Strengthening of the Basin Environmental Information System</b>						
6	Basin	Integral environmental information system and database for the Basin.	Implementation of an information system that will allow the status and use of the basin's natural resources to be established and publicized; Provision of reliable information on different environmental parameters; Promotion of the interinstitutional strengthening and coordination of the agencies responsible.	BC**, WR, NR/Env., INTA, SENAMHI, S&T, Prod. Orgs., Users	PROFILE	1.840.000
<b>a.5 Formulation and Implementation of Integral Management Plans for Basins, Environmental Zoning, and Territorial Ordering</b>						
7	Basin	Environmental zoning and territorial ordering.	Provision of basic instruments to direct land occupation and economic activities in terms of the suitability of natural resources.	BC**, Prefecture of Tarija, Prov. WR and NR/Environ Orgs., Municipals., Civil Society Orgs.	PROFILE	1.100.000
<b>a.6 Institutional Strengthening for Integrated Natural Resource Management</b>						
8	Basin	Strengthening institutions and the capacity of government and civil society organizations involved with the management of natural resources in the Bermejo Basin.	Institutional requirements at the regional level have been identified, measured, and harmonized. Implementation strategies. Organizational, technical, human, and operational requirements have been identified, measured, and harmonized at the regional level. Strategies for implementation. Strengthening actions for agencies working with natural resources in the basin completed.	Tarija, Provinces, WR & NR Orgs., S&T Orgs., Users, CSO	PROFILE	1.900.000
<b>a.7 Strengthening and Development of Economic Instruments and Financing Mechanisms</b>						
9	Basin	Strengthening and development of economic instruments.	Consensus-based strategies for the incorporation of instruments that reflect the economic, social, and environmental value of water. Analysis carried out of pilot demonstration applications.	BC**, WR, NR, & Econ. Orgs.	PROFILE	91.000
10	Basin	Incorporation of environmental and social costs into projects – Equity accounts.	Strategies for the incorporation of environmental and social costs in the decision-making processes of the projects agreed upon. Consensus-based guidelines for assessing natural resources and services. Pilot case developed.	BC**, WR & NR/Env. Orgs. from Tarija & Prov. Munic. & Orgs. from selected case	PROFILE	267.000
11	Basin	Sustainability guidelines in financial assistance mechanisms.	Sustainability guidelines for investment projects at the regional level identified and agreed upon. Strategies for applying them to financial assistance mechanisms determined.	BC**	FD / P	100.000



## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
12	Basin	Evaluation of incremental costs.	Provision of guides or manuals for regional application. Examples of application to base line projects. Strategies for implementation in project assessment.	BC**	FD / P	100.000
<b>B. ENVIRONMENTAL PREVENTION, PROTECTION, AND REHABILITATION</b>						
<b>b.1 Protecting Biodiversity and Natural Heritage</b>						
13	Chaco LB-A	Restoration of damaged forests.	Defining forestry management alternatives for the recovery of native forests.	Forestry Directorate of Chaco	IDEA	126.000
14	Salta UB-A	Ecotourism -type sustainable use in transition forest. Monitoring practices carried out in the vicinity of El Rey N.P. Repeat exercise in Calilegua N.P.	Repeating and assessing the tests of the Transition Forests project.	APN – DTRNOA	PROFILE	330.000
15	Arce UB-B	Management and conservation of El Nueve gorge.	Reforestation, conservation of forestry resources and soils, in order to prevent silting of the city's drinking water supply and reduced soil fertility.	Prefecture, Municipality of Bermejo	FD / P	115.000
16	Entre Ríos & Caraparí UB-B	Management and conservation of sub-Andean natural resources.	Completing knowledge of the ecology and sustainable development of the sub-Andean ecosystem; Promoting the integrated and rational use of natural resources; Restoring vegetation in the project area.	BC**, Municipalities	PROFILE	2.100.000
17	Tarija UB-B	Biodiversity study.	Studying the current situation of the biota and proposing actions for its conservation and management; Discovering the status of the conservation of ecoregions, identifying problems that affect them, and proposing solutions.	BC**	PROFILE	200.000
18	Padcaya & O'Conn or UB-B	Evaluation of sub-Andean pastureland.	Generating basic information and recommendations for drawing up a sustainable management plan for the pastureland in the sub-Andean area. Classifying transhumance stockraising and the use of natural resources.	BC**	PROFILE	65.000
<b>b.2 Strengthening and Consolidating the Protected Areas System</b>						
19	Méndez & Arce UB-B	Zoning and management plan for the Sama and Tariquía biological reserves.	Preparing (in agreement with the Directorate of Protected Areas) a proposal for redefining, reclassifying, and zoning the Sama y Tariquía reserves in accordance with their ecologies, economies, and political and social realities, and designing a management plan.	PROMETA	IDEA	1.000.000
20	Arce – UB-B & Salta - UB-A	Baritú–Tariquía ecological corridor.	Making functional continuity between the two protected areas a reality through the corridor, the integral management of natural resources, and the administration of existing protected areas, in order to preserve a representative portion of Bolivia's Tucuman forest.	BC**, PROMETA (Bolivia), APN (Argentina)	AP/F	1.500.000
21	Basin	Binational trust fund for protected areas in the Río Bermejo basin.	Establishing a financial mechanism to provide funds for the conservation and sustainable development of the Tariquía, Sama and Baritú, Calilegua, and El Rey protected areas and the other natural protected areas in the basin. It is catalogued among the categories of biodiversity and international waters of the GEF.	Contrib. agencies, BC**, PROMETA (Bolivia) APN (Argentina)	DP / F	25.000.000

## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
22	Chaco – Formosa LB-A	Teuco National Park.	Studies and proposal for the creation of the Park.	APN DTRNEA – FUNAT	IDEA	150.000
23	Formosa LB-A	Teuquito National Park.	Preserving the natural values of the semi-arid Chaco and counteracting the effects of the transformation processes taking place in the west of Formosa province, which imply clearances, the alteration of water courses, and pressure on flora and wildlife.	APN – DTRNEA	PD / PF	100.000
24	Salta – Jujuy UB-A	Network of transition forest protected natural areas.	Establishing and implementing a conservation strategy for the foothill forests.	APN – DTRNOA	PD / PF	120.000
25	Salta UB-A	Stabilization of microbasins and conservation of biodiversity in the Baritú subbasin.	Granting the area protected status as a Natural Reserve in order to permanently regulate the land use methods and their intensity and allow the development of management projects, ensuring its continuity over time. II) Controlling erosion in the Río Baritú basin by means of a large number of small projects. III) Carrying out mechanical, biomechanical, and biological projects to stabilize microbasins.	APN – DTRNOA, INTA, UNSa	AP/F	388.000
<b>b.3 Implementation of Plans to Mitigate the Effects of Floods and other Climatological Disasters</b>						
26	Arce UB-B	Program of defense construction in the Bermejo urban area	Allowing recovery and consolidation of land, preventing human losses and material losses in the urban infrastructure of the city of Bermejo.	Prefecture of Tarija, Municipality of Bermejo	DP / F	516.000
27	Arce UB-B	Program of defense construction on the Río Bermejo and the Río Grande de Tarija: <ul style="list-style-type: none"> <li>• Talit a defenses</li> <li>• Campo Grande defenses</li> <li>• Naranjitos defenses</li> <li>• Porcelana defenses</li> <li>• Candado Grande defenses</li> <li>• Arrozales defenses</li> </ul>	Controlling swelling of the Río Bermejo and the Río Tarija in order to protect farmland. The Project plans the construction of 1,500 m of gabions and the cladding of 2,100 m of embankments, to the benefit of 5,500 families.	Prefecture, Municipality of Bermejo	DP / F	3.000.000
28	Arce UB-B	Channeling Cinco gorge.	Helping improve the urban road infrastructure for smoother vehicle and pedestrian traffic by preventing flooding and sources of infection. The project plans to channel the gorge, benefiting 5,000 families.	Prefecture, Municipality	DP / F	150.000
29	Uriondo, Avilés UB-B	Program of defense construction in Uriondo: <ol style="list-style-type: none"> <li>1. Calamuchita Mururayo defenses</li> <li>2. Alizos defenses</li> <li>3. San Nicolás defenses</li> <li>4. La Ventolera defenses</li> <li>5. Colón Sud defenses</li> <li>6. Saladillo defenses</li> <li>7. Huayriguana defenses</li> <li>8. San Isidro – La Choza defenses</li> <li>9. Colón Norte defenses</li> </ol>	Protecting farmland and pastureland, allowing flooding to be controlled and preventing the constant loss of productive land caused by strong, periodical rains. The project will benefit 500 poor families who live in the program area.	Prefecture, Municipality of Uriondo	PD / PF	800.000

## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
30	O'Conn or UB-B	Construction of defenses on the Río Pajonal, Río Santa Ana, and Río Salinas.	Protection and recovery of arable land on river banks, thus avoiding the destruction of roads, homes, and other property. The construction of gabions is planned to protect 150 ha of land that is currently farmed, directly benefiting 400 families.	Prefecture, Municipality of Entre Ríos	PD / PF	2.000.000
31	Cercado UB-B	Program of defense construction, Cercado Prov.: 10. Bella Vista defenses a) San Andrés defenses b) Pantipampa defenses	Allowing the recovery and consolidation of land and preventing the loss of natural resources caused by flood erosion; this will benefit 150 families.	Prefecture, Municipality of Cercado	PD / PF	360.000
32	Cercado UB-B	Flood control in the city of Tarija.	Defining the areas of the city at risk from floods and implementing solutions to reduce their effects, including protection projects and urban zoning provisions.	BC**, and Municipality of Cercado	DP / F	10.300.000
33	Tarija UB-B	Anti-hailstorm system – Central valley of Tarija.	Implementing a hailstorm protection system to mitigate the damage caused by hail to vegetable, fruit, and vine crops in the central valley of Tarija, the main agricultural area of Tarija Department.	Prefecture of Tarija, BC**	DP / F	1.600.000
34	Chaco LB-A	Flood defenses system, Gral. San Martín Department.	Flood defense, management, and control projects. Drafting an outline of the agricultural and agribusiness productive project. Sustainable development of the agricultural sector by improving its productive situation. Diversification of regional productive structures through land recovery.	APA	PD / PF	8.100.000
35	Chaco LB-A	Clean-up and reactivation of Río Guaycurú riverbeds.	Clean-up and reactivation of riverbeds. Improvements to their capacity and drainage in order to prepare new areas for farming and forestry.	APA, Municipalities, Producers' Orgs.	PD / PF	5.940.000
36	Formosa LB-A	Protection of Lavalley Bridge against support erosion.	Protection and maintenance work on the Lavalley bridge.	Directorate of WR	PD / PF	250.000
37	Formosa LB-A	Protection of banks from erosion of slopes in El Colorado.	Construction of slope protection structures, in order to prevent erosion and landslides caused by the action of the Río Bermejo and affecting urban areas of the city of El Colorado.	Directorate of WR, Direc. Water & Soil	PD / PF	1.232.000
38	Formosa LB-A	Realignment of embankment against overflowing, KM 503 NRB.	Survey of the current state and repair of the embankments.	Directorate of WR, Direc. Water & Soil	PD / PF	135.000
39	Formosa LB-A	Realignment and extension of San Pedro embankment.	General survey of current state. Topographic study of the current area of overflows. Reparation of embankments. Construction project for additional embankment. Construction of embankment to protect against overflowing. Construction projects.	Directorate of WR., Direc. Water & Soil	PD / PF	2.575.500
40	Formosa LB-A	Repair of drainage network in the southeast region.	Adapting the hydraulics of riverbeds and channels to maximize efficiency and yield. Correction of the effluent evacuation deficit in the southeast area. Repair and adaptation of existing engineering works and execution of additional projects.	Central Program Admin. Unit, Municipalities, Producers' Orgs.	FD / P	3.806.000
41	Salta UB-A	Paisanidis – Colonia Santa Rosa rainwater drainage channel.	Solving a serious flooding problems in summer months that damage a wide farming sector and the population of Colonia Santa Rosa. Intercepting excess rainwater and preventing its uncontrolled entry into farmland and the town.	AGAS Min. Prod & Empl.	FD / P	1.061.000
42	Salta UB-A	Drainage in the Río Pescado agricultural area.	Conducting studies and designing projects to provide the area with a network of rainwater channels, creating a rational surface drainage system to prevent the floods that occur at present and conflicts among neighboring farmers.	AGAS – Min. Prod & Empl.	IDEA	100.000
<b>b.4 Prevention, Pollution Control, and Environmental Clean-up of Bodies of Water</b>						

## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
43	Méendez Cercado UB-B	Environmental clean-up of the Río Guadalquivir.	Solving environmental clean-up and water quality sustainability in the Río Guadalquivir, thus reducing the environmental problems occurring at present.	BC**, and Municipalities	AP / P	9.823.000
44	Arce UB-B	Study for the environmental clean-up of watercourses in the Bermejo Triangle.	Assessing the level of pollution and its main causes, and proposing solutions for environmental clean-up and water quality sustainability of the El Nueve and El Cinco gorges and the Río Grande de Tarija and Río Bermejo that have been affected by industrial and organic pollution.	BC**	PROFILE	57.000
45	Formosa LB-A	Installation of a sewerage system in the city of Pirané.	Design of a project to provide the city of Pirané with a sewerage system, comprising a network of sewers and a treatment plant.	Municipality of Pirané	PD / PF	6.300.000
46	Jujuy UB-A	Sewerage main, Villa Jardín de Reyes.	Sewerage service covering Villa Jardín de Reyes.	Agua de los Andes SA	IMP	367.000
47	Jujuy UB-A	Reuse of sewage – Finca El Pongo.	Rational management of treated effluent in stabilizing ponds, its use for industrial crops, reducing the possibility of polluting the Río Grande.	Agua de los Andes SA	IMP	40.000
48	Salta UB-A, Arce UB-B	Prevention of endemic illness in border areas.	Exploring alternatives for overcoming the root causes of the expansion of diseases along the border between Argentina y Bolivia. Experiments with a crossborder health system. Improving habitats and cleanliness. Experiments with alternative forms of production. Border integration.	FLACAM – Bermejo town council	IMP	1.800.000
<b>b.5 Prevention and Control of Erosion and Sedimentation</b>						
49	Formosa LB-A	Recovery of degraded grasslands and control of erosion caused by water.	Development and application of a technological method for recovering pastureland. Drafting of management standards.	INTA El Colorado, Private producers	PD / PF	220.000
50	Salta	Sustainable management of the basin of the Río Blanco or Zenta.	Placing 140,000 ha of land degraded by over-pasturing under integrated management and reestablishing hydrological balance.	FUDECHA	FD / P	1.980.000
51	Cercado UB-B	Sediment control in the Río Tolomosa basin.	Control of transit sediments and soil erosion to reduce build-up at the San Jacinto dam; this will bring about a 25% reduction in the sediment reaching the dam, increasing the useful life of this multipurpose infrastructure: irrigation, electricity, drinking water, tourism, etc.	BC**, and San Jacinto Association	DP / F	4.150.000
52	Jujuy UB-A	Erosion control in the Arroyo del Medio basin.	Control of accelerated water erosion by managing pastureland and water and forestry projects.	EEA INTA Salta, Municipalities, Producers	IDEA	440.000
<b>C. SUSTAINABLE DEVELOPMENT OF NATURAL RESOURCES</b>						
<b>c.1 Development and Implementation of Integral Basin Management Plans</b>						
53	Basin	Program for the Integrated Management of Water Resources (PMIRH-CRB).	Having consolidated a program framework for the integrated management of resources at a regionally consolidated basin -wide level, including development initiatives in the context of preventing erosion and pollution and preserving nature for protective purposes.	BC**, local WR, NR, & Environ. Orgs.; techn. institutes; municipalities; civ. soc. orgs.	PROFILE	2.570.000

## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
54	Méndez , Cercado UB-B	Integral Natural Resource Management Plan for the Upper Basin of the Río Guadalquivir.	Controlling erosion and floods and managing natural resources on a sustainable basis; Construction and improvement of hydraulic infrastructure for irrigation and sediment control; Encouraging the adoption of farming technologies that help reduce erosion and the transportation of sediment; Protecting the quality levels of rivers and restoring the environment.	BC**	DP / F	5.500.000
55	Cercado UB-B	Integral Natural Resource Management in the Río Santa Ana Basin.	Implementing a system for managing natural resources in the Río Santa Ana Basin, with a view to environmental sustainability; Introducing practices and carrying out projects to control erosion; Working for equality in these undertakings with the participation of the basin's inhabitants and stakeholders; Improving living standards for the population.	BC**	DP / F	4.200.000
56	Arce y Avilés UB-B	Integral Resource Management in the Río Camacho Basin.	Achieving a pattern of natural resource usage in the basin to ensure sustainable economic growth; Introducing practices and carrying out projects to control erosion; Developing a rational natural resource management system in the basin to improve the environment.	BC**	DP / F	6.300.000
57	Chaco LB-A	Study for the integral development of the Río Bermejito Basin.	Collection of background information. Socio-economic analysis. Basic studies of hydrology, hydraulics, climatology, topography.	APA	PD / PF	1.000.000
58	Salta UB-A	Integrated management of the Río Iruya Basin.	Formulating a basin management program.	COREBE*, UNSa, Municipalities	IMP	520.000
<b>c.2 Implementation of Basin-Wide Sustainable Natural Resource Management Programs</b>						
59	Jujuy UB-A	Management of the Río Grande Basin: Systematization of the Río Huasamayo Basin.	Actions in the fields of forestry, farming, and small projects for controlling flood erosion.	DPRH Jujuy, Municip., Producers	PROFILE	250.000
<b>c.3 Development, Validation, and Application of Appropriate Technologies and Sustainable Productive Models</b>						
60	Formosa LB-A	Evaluation of the quality and health of soils used for farming and forage.	Information, awareness, and training in correct soil use geared toward organic production.	UNAF, Producers	DP / F	110.000
61	Basin	Access to, validation of, and application of sustainable technologies.	Providing technical, legal, institutional, and financial strategies for the definition and validation of specialized productive models and sustainable practices in the Bermejo Basin.	BC** , Prov. NR Orgs., S&T Orgs.	FD / P	150.000
62	Chaco - Formosa LB-A	Sustainable management alternatives in the humid and semihumid regions of the Río Bermejo Basin.	Further and promote sustainable management techniques to make good use of natural resources.	INTA – SRF – SRCH – UBA – INDES – Min. Production	PROFILE	1.835.000
63	Chaco LB-A	Forestry expansion plan.	Recovery, conservation, and preservation of forests through management practices.	IIFA, Producers	IMP	800.000
64	Formosa LB-A	Techniques to improve forestry management in the "parque Chaco – Salteño".	Developing systematized technologies for multiple usages, restoration, conservation, and improvement of forests.	UnaF, Producers	FD / P	63.000
65	Formosa LB-A	Model nursery to produce species native to the region.	Providing forestation projects with native species; providing producers with training in production techniques and advice on native species.	Dir. Forests	PD / PF	210.000
66	Formosa LB-A	Promotion native forest management.	Sustainable forestry and livestock production models.	Dir. Forests, Municipalities, Producers	PD / PF	200.000
67	Jujuy UB-A	Survey and assessment of native forest management alternatives.	Evaluation of those that exist and study of the behavior of different managed surfaces.	DGRNR	IDEA	89.000

## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
68	Salta UB-A	Productive entrepreneurship for social development.	Promoting self-management, food production, and improved resource management.	IPA Communities	IMP	85.000
69	Salta UB-A	Production and development of organic crops.	Establishing guidelines for farm work that preserve plots for organic production.	IPA, Communities	PD / PF	100.000
70	Salta UB-A	Productive diversification of the Yungas using guidelines of sustainability.	Implementing and/or improving productive systems based on the ecologically, economically, and socially sustainable use of natural resources.	LIEY, Communities, Producers	PROFILE	658.000
71	Salta UB-A	Carbon fixation in the Río Bermejo Basin.	Fixing atmospheric carbon by means of forest plantations (5,500 ha), the management of native forests (72,500 ha), and the establishment of ecological reserves (23,000 ha).	Agroftal Foundation, LIEY-LISEA, Private Companies	DP / F	2.500.000
72	Basin	Cultural heritage related to management of water resources.	Survey and dissemination of typical traditional cultural phenomena in the basin region.	BC**, Prov. Orgs., NGOs	PROFILE	280.000
73	Cercado UB-B	Implementation of natural resource management practices at farms.	Training for men and women in the management of natural resources on small-scale property, by selecting and equipping farms in 14 communities for the implementation of sustainable management practices for water, soils, vegetation, and livestock.	Vida Verde (NGO)	DP / F	180.000
<b>c.4 Implementation of Projects for the Sustainable Development and Use of Water Resources</b>						
74	Chaco LB-A	Expansion of the rice growing area in the Cangüi Grande and Chico basin.	Construction of pumping stations, irrigation channels, and drainage. Systematization and leveling of land, service roads. Technical assistance for producers. 1st year: 1000 ha under irrigation. Transfer channel. 2nd year: 3000 ha under irrigation. Pumping station. 3rd year: 4000 ha under irrigation. 4th year: total of 7100 ha under irrigation.	APA	IMP	16.500.000
75	Chaco LB-A	Expansion of the rice growing area in the Bermejo basin.	Construction of irrigation channels and drainage. Technical assistance for producers.	APA	IMP	2.625.000
76	Chaco LB-A	Northern aqueduct.	Provision of water to settlements in the north, center, west, and southwest of the Chaco. I) Puerto Lavalle – Saenz Peña. II) S. Peña. – Hso. Campo S. Peña – Los Frentones. III) Extension San Bernardo – V. Berthet V. Angela – S. Silvina. Basic studies. Course of the aqueduct. Choice of materials. Alternative courses.	APA	PD / PF	152.000.000
77	Chaco LB-A	Supplying water to the center-west of Chaco province.	Conducting preliminary technical and economic feasibility studies that will allow the design and implementation of sustainable development actions in the productive areas of Chaco Province, covering the following areas: Providing water to the center-west of the province; agricultural and agribusiness production. Proposals for the specific aspects of water management involved in the project.	COREBE – UNPRE	PD / PF	803.000
78	Formosa LB-A	Maintenance and adaptation of outlet of the Laguna Yema channel.	Improving outlet capacity. Construction of feeder channels. Removal of sediment from outlet channels and gates. Construction of deflecting breakwaters.	Dir. WR	DP / F	1.900.000
79	Formosa LB-A	Relocation and adaptation of the Santa Rita water outlet station.	Adapting the outlet structure to the new location of the Río Bermejo drainage channel.	Dir. Water & Soil	IMP	200.000

## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
80	Jujuy UB-A	Colorado stream project– Santa Clara.	The specific goals area: (i) unification of outlets, construction of a redirecting dam and grid outlet that will allow irrigation on both sides of the Colorado stream; (ii) improvement and repair of the guiding infrastructure in principal and secondary channels; (iii) installation of the water measurement and control structures to allow proper distribution of water; (iv) increased efficiency in irrigation to satisfy the demand for water of the existing surfaces.	DPRH	DP / F	1.564.000
81	Jujuy UB-A	San José del Bordo channel project.	Construction of temporary works (caissons, detours, and temporary service roads for the duration of work). Optimization of outlet work. Expansion of the existing sand remover. Repair of the channel bridge over the El Malvar stream. Repair of the siphon beneath the El Mollar stream. Preparing the guard channel. Repairing the service road. Repairing the San José del Bordo channel. Construction of works with reinforced concrete. Raising the channel. Construction and repair of gates and surface drains.	DPRH	DP / P	1.060.000
82	Jujuy UB-A	Tertiary channels “Integral use of the Perico and Grande Rivers.”	Implementation of the tertiary irrigation network and appropriate management of infrastructure, avoiding water leaks and losses, increased production through optimization of water resources, increased employment of rural workers.	DPRH	FD / P	17.800.000
83	Jujuy UB-A	Drainage and irrigation project in Manantiales, Phase I.	Phase I: a) Development of irrigation and drainage infrastructure, b) training and expansion, c) farm credits (soil cleaning).	DPRH	FD / P	18.000.000
84	Jujuy UB-A	Carahunco – La Mendieta Aqueduct.	Drinking water coverage in rural areas.	Agua de los Andes SA	IMP	1.408.000
85	Jujuy UB-A	Expansion of secondary channel capacity SM8.	Design of a project to increase energy production at Las Maderas hydroelectric plant. Possibility of providing water for human consumption to the San Pedro de Jujuy drinking water processing plant (60,000 people).	DPRH	PD / PF	5.300.000
86	Jujuy UB-A	Manantiales plan, Phase II. Usage in irrigation in Lobatón, Lavayen, Arechal.	Design and formulation of the 2nd phase of the project. 3rd study and design of how recovered water is to be channeled into the usage area.	DPRH	PD / PF	500.000
87	Jujuy UB-A	Assistance program for livestock drinking water.	Providing drinking water for animal consumption in the high plateau, meeting conditions of sustainability and adequate sanitation.	DPRH	AP/F	40.000
88	Jujuy UB-A	Irrigation board.	Construction of the irrigation channel and improving the irrigation system to provide the zone’s inhabitants with a greater water flow for animals, plants, crops, drinking water, and forage.	DPRH	IMP	10.000
89	Jujuy UB-A	Managing water and improving irrigation systems in the community of Maimará– Quebrada de Humahuaca.	Reducing the degradation of the Río Grande basin through a more sustainable use and management of natural resources. Promoting the sustainable use of natural resources, water, and soils to increase the efficiency with which the irrigation system is used. Constructing physical and forestry defenses to protect water outlets and prevent subsidence and sediment deposits. Reducing water losses caused by leaks by channelization. Enabling producers to use water more rationally and efficiently on plowed fields.	CAM - CAUQueVa.	FD / P	90.000
90	Salta UB-A	Colonia Santa Rosa outlet.	Construction of 6 m <sup>3</sup> /sec outlet. 3 km of coated main channel.	AGAS	FD / P	4.311.000
91	Salta UB-A	Colonia Santa Rosa drainage network.	Construction of 20 km of drainage channels. Organization of irrigation and drainage consortia.	AGAS	FD / P	19.199.000
92	Salta UB-A	Las Maravillas irrigation network.	Construction of an outlet and 10 km of channels for distributing irrigation water.	AGAS	FD / P	1.069.000

## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
93	Salta UB-A	La Quena – Morillo outlet and channel.	Construction of a 13 m <sup>3</sup> /sec outlet and 8 km of main channel for irrigation consortia.	AGAS	FD / P	15.600.000
94	Salta UB-A	Orán drainage collectors.	Construction of 22 km of drainage collection channels. Providing the city and its rural surroundings with the infrastructure necessary for rain drainage and the clean-up of 500 affected hectares.	AGAS	FD / P	5.113.000
95	Salta UB-A	El Angosto – Río Mojotoro outlet and main channel.	Increase and improve farm output in the area by between some 30 and 40%. Construction work and creation of the consortium.	AGAS	FD / P	750.000
96	Salta UB-A	Repair of Campo Alegre dam.	Repair of the Campo Alegre outlet, the dam that diverts the Río San Alejo and the Río Santa Rufina, which has been partially broken by flooding. If the repairs are not effected, there is a risk of total destruction, which would have major repercussions for the Gral. Güemes irrigation zone.	AGAS	IMP	400.000
97	Salta UB-A	Río Dorado unifying irrigation channel.	Unifying the outlets (nine in total) and current precarious channels, to achieve greater efficiency in the collection and distribution of irrigation water in the Apolinario Saravia farming region.	AGAS	FD / P	2.400.000
98	Salta UB-A	Urundel Río de las Piedras siphon and channel.	Construction project to ensure equitable water distribution between the provinces of Salta and Jujuy.	AGAS	FD / P	400.000
99	Salta UB-A	Water supply for small settlements.	Providing water for human consumption and, possibly, for livestock.	DPMAyRN	FD / P	170.000
100	Salta UB-A	Making use of dry riverbeds and watercourses.	Providing water for consumption by livestock.	DPMAyRN	PD / PF	100.000
101	Salta UB-A	Improving irrigation systems in small settlements.	Cladding of channels and construction of small siphons.	DPMAyRN	PD / PF	85.000
102	Salta UB-A	Dry riverbeds and distribution by aquifers in the subsoil of the Río Bernejo Basin.	Studying the provision of drinking water to remote communities and defining the water-bearing potential of the dry riverbed.	DPMAyRN	PD / PF	430.000
103	Salta UB-A	Aguas Blancas channel.	Studies and design of the outlet project and 20 km of main channel; socio-economic evaluation; organization of irrigation users.	AGAS	IDEA	8.100.000
104	Salta UB-A	El Talar – AGAS channel (right bank of the Río San Francisco).	Project studies for the construction of a 3 m <sup>3</sup> /sec outlet. Main irrigation channel. Creating productive, self-sufficient farming areas in the Chaco of Salta, using some 6,000 ha that are currently unproductive.	AGAS	IDEA	7.100.000
105	Salta UB-A	Banda Sur project.	Preliminary studies and feasibility studies of the project to provide Banda Sur (Salta province) with water and to extend the Santiago del Estero channel.	COREBE - UNPRE	IDEA	700.000
106	Salta UB-A	Improving the irrigation system in Gral. Güemes.	Studies and designing projects to remodel 15 km of irrigation distribution channels, modifying part of their course and recladding them.	AGAS	IDEA	1.600.000



## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
107	Bermejo, Arce UB-B	Construction project for micro-irrigation systems in Bermejo: <ul style="list-style-type: none"> <li>• Naranjitos</li> <li>• Talita</li> <li>• El Toro</li> <li>• La Florida</li> <li>• Barretero</li> <li>• Los Pozos</li> <li>• Colonia Linares</li> <li>• Campo Grande</li> <li>• Quebrada Chica</li> </ul>	Providing irrigation infrastructure for existing farmed areas and others suitable for the purpose; diversifying production and improving agricultural yields. It involves the construction of outlets, channels, and ancillary equipment, such as siphons, sand removers, etc., and will provide 580 ha with irrigation, benefiting 420 families.	Prefecture, Municipality of Bermejo	DP / F	1.185.000
108	Méndez UB-B	Construction project for micro-irrigation systems in San Lorenzo municipality: <ul style="list-style-type: none"> <li>• Santa Bárbara</li> <li>• Erquis Sud</li> <li>• Tomatitas</li> <li>• Coimata</li> <li>• Sella</li> </ul>	Providing irrigation infrastructure for existing farmed areas and others suitable for the purpose. Diversifying production and improving agricultural yields. The program will allow 155 ha to be irrigated, benefiting 185 families.	Municipality of San Lorenzo, Prefecture of Tarija	FD / P	385.000
109	Arce UB-B	Construction project for micro-irrigation systems in Padcaya municipality: <ul style="list-style-type: none"> <li>• Padcaya</li> <li>• Extension work in Cañas Chaguaya</li> <li>• Abra La Cruz</li> <li>• El Carmen</li> <li>• La Merced</li> </ul>	Providing irrigation infrastructure for existing farmed areas and others suitable for the purpose. Diversifying production and improving agricultural yields. The program will allow 130 ha to be irrigated, benefiting 195 families.	Municipality of Padcaya, Prefecture of Tarija	DP / F	325.000
110	Bermejo, Arce UB-B	Irrigation in the Bermejo triangle.	Promoting the development of irrigated agriculture in the Bermejo triangle, allowing the diversification of farming, improved production, increased incomes, and the creation of jobs. The goal is to provide 5,175 ha with irrigation, benefiting 4,500 families.	Prefecture of Tarija	DP / F	13.000.000
111	O'Connor UB-B	El Pajonal irrigation system.	Incrementing farmers' incomes by improving and expanding the irrigation system within a framework of sustainable development. The irrigation of 287 ha will be improved, and the area under irrigation will be expanded by 100 ha, benefiting 150 traditional farming families.	Prefecture of Tarija	FD / P	1.500.000
112	O'Connor UB-B	Naranjo – Valle del Medio irrigation system, right bank.	Increasing the output of farms under irrigation with high -yield crops and proper management of soil, water, and vegetation resources. The project involves the construction of an outlet facility, channels, and associated installations that will benefit 70 families and provide 120 ha with irrigation.	Prefecture, Municipality of Entre Ríos	FD / P	250.000
113	O'Connor UB-B	Chiquiacá irrigation system.	Expanding farming in the borderland with self-sustaining production systems to provide 500 ha with irrigation and benefit 150 families; supporting the correct and rational use of natural resources to enable increased agricultural production and productivity.	Prefecture, Municipality of Entre Ríos	PD / PF	2.000.000

## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
114	Cercado UB-B	Construction project for micro-irrigation systems in Cercado province: <ul style="list-style-type: none"> <li>• Tolomosa</li> <li>• San Andrés</li> <li>• Bella Vista</li> <li>• Yesera Sud</li> <li>• Pantipampa-Churquis</li> </ul>	Establishing irrigation infrastructure for the rational use of natural resources, increasing agricultural production in the five communities, and introducing intensive production systems for the most profitable crops. The goal is to irrigate 300 ha, benefiting 200 low-income families.	Prefecture, Municipality of Cercado	DP / F	750.000
115	Avilés, Cercado UB-B	Systematization of land for agricultural purposes – Irrigated areas, San Jacinto project.	Optimizing land and water use in the irrigated areas of the San Jacinto multiple project, in order to increase productivity, control rivulets near to farmed areas, and level out land along with the construction of the irrigation and drainage network.	San Jacinto Association	DP / F	450.000
116	MéndeZ Cercado UB-B	Construction of the Sella dam.	Agricultural development of 2,000 ha of irrigated land on the Sella and Carachimayo plateaus; Providing the city of Tarija with drinking water; Sediment control.	Prefecture of Tarija Dept.	FD / P	17.200.000
117	MéndeZ UB-B	Construction of the Canasmoro dam.	Construction of a dam in order to irrigate 1,800 ha and involve them in agricultural development; Sediment control; Increased food supply.	Prefecture of Tarija Dept.	DP / F	7.500.000
<b>c.5 Research for Natural resource Management and Use</b>						
118	Chaco LB-A	Soil study and inventory.	A 1:50,000 scale inventory of the Río Bermejo basin in Chaco.	INTA - Dir. Soils	IMP	250.000
119	Chaco LB-A	Forestry inventory.	Identifying and assessing forestry resources to develop productive and environmental policies.	Dir. Soils	IMP	100.000
120	Chaco LB-A	Evaluation of fishery resources.	Updated knowledge about the resource for its management and conservation in light of changes in water quality and quantities.	Directorate of Wildlife – SRN	IMP	350.000
121	Chaco LB-A	Partial census of Chaco wildlife.	Obtainin g scientific information about species that have declined.	Dir. of Wildlife	IMP	120.000
122	Formosa LB-A	Soil study and survey. Soil management and conservation program.	Drawing up 1:50,000 scale maps of the Río Bermejo basin region in Formosa.	Dir. Water & Soils	PD / PF	600.000
123	Formosa LB-A	Distribution of land holding and resource usage methods in the Lower Bermejo Basin.	Conducting a survey of the distribution of land holding and productive economic units in the Lower Bermejo Basin (Formosa). Systematizing the information on the land holding distribution and on the regularization of the situations of Creoles and indigenous communities with precarious holding. Constructing a classification of types of usage made of the resources in the Lower Bermejo Basin part of the Chaco in accordance with specific indicators. Creating a database by computerizing this information.	ACOIN, UBA	PD / PF	100.000
124	Salta UB-A	Geological risks and man-made influences.	Studies for identifying, assessing, and describing the natural geological and man-made processes that affect the natural environment.	Nat. Univ. Salta	PD / PF	10.000
125	Cercado UB-B	Adaptation of the studies of the Río Santa Ana irrigation system and dam.	Taking the JICA's existing studies into the construction of the Santa Ana irrigation system and dam to the level of a final design.	BC**	PD / PF	500.000
<b>D. PUBLIC PARTICIPATION AND AWARENESS</b>						

## SUMMARY OF STRATEGIC PRIORITY ACTIONS PROPOSED IN THE STRATEGIC ACTION PROGRAM

No	Location	STRATEGIC AREAS AND ACTIONS		Participants <sup>4</sup>	Progress Status	Total Amount
<b>d.1 Strengthening Public Participation in Action Planning and Implementation</b>						
126	Basin	Public participation program.	Promoting local awareness of environmental decay; Encouraging the population's active involvement in planning and implementing projects for the management and rational use of natural resources; Incorporating public participation as a work method within the SAP's projects.	BC**, Provinces, Municipalities, NGOs	PROFILE	850.000
127	Basin	Assessment and control mechanisms involving civil society and the State.	Exploring implementation strategies for the incorporation of the organized community in the assessment and control of management. Developing pilot project.	BC**, Provinces, Selected municipality	FD / P	250.000
128	Jujuy UB-A	Thematic discussion and cooperation workshops.	Raising awareness of the importance of making rational use of the environment through workshops and participatory instruments.	CRVP	PROFILE	90.000
<b>d.2 Environmental Education and Training Programs for Civil Society</b>						
129	Basin	Promotion of environmental education activities in the basin.	Promoting the training of human resources in environmental management and ecologically rational practices; Dissemination of knowledge on environmental issues and provisions; Promoting a multisectoral approach to training; Encouraging awareness of environmental issues.	BC**, NR, Educ. Orgs., Civ. Soc. Orgs. from provinces and Tarija	PROFILE	800.000
130	Formosa LB-A	Forestry awareness in schools and indigenous communities.	Promoting awareness of the environment and forestry among school teachers and pupils and in indigenous communities.	Dir. Forests	PROFILE	290.000
131	Basin LB-A	Training environmental operators.	Training an interdisciplinary group to help preserve the ecosystem and work for sustainable development.	FUNAT	IDEA	60.000
132	Chaco LB-A	Let's Plant the Future.	Raising awareness about the value of natural resources, particularly trees.	Dir. Soils	IMP	10.000
<b>d.3 Dissemination of Sustainable Technologies for Production</b>						
133	Salta UB-A	Rural development of Creole and indigenous communities.	Raising awareness among producers regarding the importance of managing agricultural land, forests, and pastureland.	Tech. Sch. 5127	PROFILE	60.000
134	Chaco LB-A	Training in soil management and conservation.	Training teachers, technicians, and producers about the sustainable use of natural resources.	Dir. Soils	IMP	10.000
135	Jujuy UB-A	Education and soil conservation.	Training producers in conservationist practices.	DGRNR	IDEA	900.000
<b>d.4 Public Access and Dissemination of Information for Supporting Decision-Making Processes</b>						
136	Basin	Access to information for participation.	Identifying appropriate mechanisms for access to information by interested members of the community. Development of a pilot project.	BC**, Provinces	PROFILE	150.000

Location:  
UB-A: Upper Basin, Argentina  
UB-B: Upper Basin, Bolivia  
LB-A: Lower Basin, Argentina

Progress Status:  
IDEA: IDEA PROPOSED  
PD / PF: PRELIMINARY DESIGN / PRE-FEASIBILITY  
DP / F: DRAFT PROJECT / FEASIBILITY  
PROFILE: PROJECT PROFILE  
FD / P: FINAL DESIGN / PROJECT  
IMP: IMPLEMENTATION / CONSTRUCTION

## ANNEX XI: Budget in UNEP format for 2001-2005

<b>10 PROJECT PERSONNEL COMPONENT</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>Total</b>
1100 Personnel						
1101 Technical Coordinator Argentina	40,000	60,000	60,000	60,000	0	220,000
1102 Technical Coordinator Bolivia	28,000	42,000	42,000	42,000	35,000	189,000
1103 Technical support for Argentina [for a natural science or environmental specialist @US\$5,000]	30,000	30,000		0	0	60,000
1104 Secretarial support for Bolivia (53p/m @US\$500)	4,000	6,000	6,000	6,000	4,000	26,000
<b>1199 Total</b>	<b>102,000</b>	<b>138,000</b>	<b>108,000</b>	<b>108,000</b>	<b>39,000</b>	<b>495,000</b>
					0	
1200 Consultants					0	
1201 External consultants	65,000	29,500	0	0	0	94,500
1202 Local Consultants	180,000	102,000	92,500	60,000	25,000	459,500
<b>1299 Total</b>	<b>245,000</b>	<b>131,500</b>	<b>92,500</b>	<b>60,000</b>	<b>25,000</b>	<b>554,000</b>
1300 Administrative Support						
1301 Direct Support Cost OAS	71,795	143,590	143,590	143,590	143,590	646,155
<b>1399 Total</b>	<b>71,795</b>	<b>143,590</b>	<b>143,590</b>	<b>143,590</b>	<b>143,590</b>	<b>646,155</b>
1600 Travel						
1601 Technical Coordinator's travel (local and intl)	31,050	31,050	31,050	31,050	3,800	128,000
1602 Technical support travel (local and intl)	14,250	14,850	14,850	14,850	3,500	62,300
<b>1699 Total</b>	<b>45,300</b>	<b>45,900</b>	<b>45,900</b>	<b>45,900</b>	<b>7,300</b>	<b>190,300</b>
<b>1999 COMPONENT TOTAL</b>	<b>464,095</b>	<b>458,990</b>	<b>389,990</b>	<b>357,490</b>	<b>214,890</b>	<b>1,885,455</b>
<b>20 SUB-CONTRACT COMPONENT</b>						
2200 Institutional development and strengthening of the Binational Commission for the integrated management of the Basin	308,590	61,000	0	0	0	369,590
2201 Institutional development for the integrated management of the Basin at the inter-jurisdictional level in Argentina	0	0	0	0	0	0
2202 Institutional strengthening and capacity building for governmental and civil society organizations	269,450	376,000	0	0	0	645,450
2203 Development and harmonization of political and legal frameworks for sustainable management of water resources in the Basin	297,500	10,000	0	0	0	307,500
2204 Environmental zoning and land-use regulation	418,800	0	0	0	0	418,800
2205 Strengthening and developing economic instruments to promote sustainable use of water	0	0	64,500	0	0	64,500
2206 Development of strategies for incorporating environmental and social costs into project management and decision-making	0	91,640	0	0	0	91,640
2207 Sediment control in Tolomosa River Basin	29,000	471,000	0	0	0	500,000
2208 Integrated management of natural resources of Santa Ana River Basin	24,000	376,000	0	0	0	400,000
2209 Integrated management of the Iruya River Basin	0	277,400	0	0	0	277,400

150,000

0

0

0

0

150,000

**3**

2211 Introducing alternative forms of ecotourism in piedmont transition forests in the vicinity of the El Rey and Calilegua national parks	200,000	0	0	0	0	200,000
2212 Carbon fixation in the Yungas	0	40,000	360,000	0	0	400,000
2213 Biodiversity study	0	150,000	0	0	0	150,000
2214 Implementation of the Baritú-Tariquia-Calilegua biological corridor	100,000	300,000	0	0	0	400,000
2215 Zoning and management plan for the Sama and Tariquia Reserves	0	100,000	0	0	0	100,000
2216 Evaluation of sub-Andean rangelands	0	0	45,000	0	0	45,000
2217 Zoning for the future Teuco National Park	24,000	0	0	0	0	24,000
2218 Environmental clean-up of the Guadalquivir River	150,000	0	0	0	0	150,000
2219 Environmental cleanup study for watercourses in the Bermejo Triangle	0	0	45,000	0	0	45,000
2220 Program for Integrated Management of Water Resources and Sustainable Development in the Bermejo River Basin	48,516	70,000	0	0	0	118,516
2221 Sustainable management alternatives for natural resources in the humid and subhumid Chaco	0	606,000	0	0	0	606,000
2222 Productive diversification under conditions of sustainability in the Yungas	0	240,000	0	0	0	240,000
2223 Implementation of water and natural resource management practices consistent with traditional practices in the basin	0	164,220	0	0	0	164,220
2224 Sustainable rural development in indigenous and native communities	0	30,000	0	0	0	30,000
2225 Systematization of irrigated areas of the San Jacinto project	0	160,000	0	0	0	160,000
2226 Securing of financial resources for the Bermejo River Basin	300,000	0	0	0	0	300,000
2227 Promotion of environmental education activities in the basin	309,000	200,000	0	0	0	509,000
2228 Public participation program	224,780	36,000	19,000	19,000	8,500	307,280
2229 Access to information in support of public participation	0	0	63,000	0	0	63,000
2230 Developing networks and mechanisms of articulation among the various economic sectors and jurisdictional authorities in the basin	110,480	5,000	0	0	0	115,480
2231 Developing and implementing an environmental information and monitoring system for the Bermejo River basin	624,900	140,000	0	0	0	764,900
2232 Definition and adoption of IW indicators	46,000	100,000	54,000	0	0	200,000
2233 Dissemination and replication of the Bermejo project into the broader context of the Plata Basin	350,000	350,000	0	0	0	700,000
<b>2299 Total</b>	<b>3,985,016</b>	<b>4,354,260</b>	<b>650,500</b>	<b>19,000</b>	<b>8,500</b>	<b>9,017,276</b>
<b>2999 COMPONENT TOTAL</b>	<b>3,985,016</b>	<b>4,354,260</b>	<b>650,500</b>	<b>19,000</b>	<b>8,500</b>	<b>9,017,276</b>

<b>40 EQUIPMENT AND PREMISES</b>						
4100 Non-Expendable Equipment						
4101 Office equipment [computers, printers - list to be approved at SC1]	21,700	5,000	20,000	0	0	46,700
<b>4199 Total</b>	<b>21,700</b>	<b>5,000</b>	<b>20,000</b>	<b>0</b>	<b>0</b>	<b>46,700</b>
<b>4999 COMPONENT TOTAL</b>	<b>21,700</b>	<b>5,000</b>	<b>20,000</b>	<b>0</b>	<b>0</b>	<b>46,700</b>
<b>50 MISCELLANEOUS COMPONENT</b>						
5200 Reporting costs						0
5220 Translation @ 130/1000 words						
5221 Photocopying and publications	15,857	8,179	8,178	2,140	5,000	39,354
<b>5299 Total</b>	<b>15,857</b>	<b>8,179</b>	<b>8,178</b>	<b>2,140</b>	<b>5,000</b>	<b>39,354</b>
5300 Sundry						
5301 Communication costs (telephone, FAX, postage)	1,120	1,680	1,680	1,680	1,400	7,560
5302 Contingency	50,910	0	0	0	0	50,910
<b>5399 Total</b>	<b>52,030</b>	<b>1,680</b>	<b>1,680</b>	<b>1,680</b>	<b>1,400</b>	<b>58,470</b>
<b>5999 COMPONENT TOTAL</b>	<b>67,887</b>	<b>9,859</b>	<b>9,858</b>	<b>3,820</b>	<b>6,400</b>	<b>97,824</b>
<b>GRAND TOTAL</b>	<b>4,538,698</b>	<b>4,828,109</b>	<b>1,070,348</b>	<b>380,310</b>	<b>229,790</b>	<b>11,047,255</b>



**ANNEX XII**  
**FORMAT OF QUARTERLY OPERATIONAL REPORT TO UNEP**

**1. IDENTIFIERS**

**Country:** Brasil

**Project Title:** Implementation of the Strategic Action Programme for the Bermejo River Binational Basin

**Focal Area:** International Waters

**Implementing Agency:** United Nations Environment Programme

**GEF Funding:** US\$11,040,000

**Co-funding:** US\$8,430,000 (in kind contribution from Argentina d Bolivial)  
US\$150,000 (in kind contribution from UNEP)  
US\$150,000 (in kind contribution from the GS/OAS)

**2. FINANCIAL STATUS**

[Commitment and disbursement data as of the date of the report]

**3. IMPLEMENTATION PROGRESS**

[Statement of progress of the project components in relation to agreements or plans. Assessment of Overall status. Report on the reasons, in the event of delays, cost over-run or positive deviations]

**4. ACHIEVEMENT OF PROJECT OBJECTIVES**

[Assessment of likelihood that project objectives will be achieved.]

**5. SPECIFIC ASSESSMENT OF FACTORS RELATING TO THE INTERNATIONAL WATERS FOCAL AREA.**

**ANNEX XIII: Format for half-yearly reports**

Implementing Organization: \_\_\_\_\_

Project No: \_\_\_\_\_

Projec Title: \_\_\_\_\_

Reporting Period: \_\_\_\_\_

1. Project Personnel recruited (Project Coordinator/Administrative Assistants, other project staff)

Name	Nationality	Duration of Contract	Fee (in US\$)	Brief Terms of Reference

2. Experts/Consultants recruited:

Name	Nationality	Duration of Contract	Fee (in US\$)	Brief Terms of Reference

3. Major items of equipment ordered: (Value over \$1,500)

Please attach to the 2nd quarter (April - June) and 4th quarter (Oct - Dec) progress reports an **inventory** of all non-expendable equipment indicating date of purchase, description, serial number, quantity, location, cost and remarks, and **for vehicles**, give mileage report (**see inventory format attached**).

4. Status of the implementation of the activities listed under **WORKPLAN** in the project document, and status of documents, reports, manuals, guidelines, etc.

(a) List actual activities/outputs\* **completed/produced** under the following headings where appropriate:

(Please tick appropriate box)

(i) <b>Meetings</b> (envisaged under the project)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interovernmental (IG) Mtg	Expert Group Mtg	Training/Seminar Workshop	Others	
Title _____				
Venue and Dates _____				
Convened by _____				
Organized by _____				
Report issued as doc. no. /symbol _____ Languages _____ Dated _____				
For Training Seminar/Workshop, please indicate: No. of participants _____				
and complete the table below giving names and nationalities of participants.				

**Annex (Participants List)**

Name	Nationality

--	--

(ii) **Printed Materials**

Report to (IG) Mtg                       Technical Publication                       Technical Report                       Others

Title \_\_\_\_\_

Author(s)/Editor(s) \_\_\_\_\_

Publisher \_\_\_\_\_

Symbol (UN/UNEP/ISBN/ISSN) \_\_\_\_\_

Date of publication \_\_\_\_\_

(when the above reports have been distributed, **attach the distribution list**).

(iii)                       **Technical Information**                       **Public Information**

Description \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Dates \_\_\_\_\_

(iv) **Technical Cooperation**

Grants and Fellowships                       Advisory Services                       Others (e.g. materials & equipment donated)

Purpose \_\_\_\_\_

Place \_\_\_\_\_ Duration \_\_\_\_\_

For Grants/Fellowships, please indicate:

<u>Beneficiaries</u>	<u>Countries/Nationalities</u>	<u>Cost (in US\$)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

- (b) Status of activities/outputs underway.  
 Meetings, seminars, workshops study tours, training courses, fellowships under preparation
- i. Status of documents, reports, manuals, guidelines being prepared
  - ii. Status of studies, surveys underway
  - iii. Status of implementation of other activities

5. Summary of the problems encountered in project delivery (if any)

6. Actions taken or required to solve the problems identified in (5) above

**ANNEX XIV: Terminal Report.**

**Implementing Organization** \_\_\_\_\_

**Project No.:** \_\_\_\_\_

**Project Title:** \_\_\_\_\_

**1. Project Objectives - Re-state the following:**

Objectives:  
Needs:  
Results:

**2. Project activities**

Describe the activities actually undertaken under the project. Give reasons **why some activities, planned at the outset, were not undertaken, if any.**

Activities actually undertaken	Activities planned but not undertaken (reason for failure)

**3. Project outputs**

Compare the outputs generated with the ones listed in the project document.

Actual Outputs (generated)	Outputs envisaged under the project
a)	
b)	
c)	
d)	
<b>* Below, provide more information on the outputs listed on this section:</b>	

**Further information on outputs listed above:**

**a) MEETINGS**

Inter-governmental (IG) Mtg.	Expert Group Mtg	Training Seminar/Workshop	Others
Title: _____ Venue _____ Dates _____ Convened by _____ Organized by _____ Report issued as doc. No/Symbol _____ Dated _____ Languages _____	Title: _____ Venue _____ Dates _____ Convened by _____ Organized by _____ Report issued as doc. No/Symbol _____ Dated _____ Languages _____	Title: _____ Venue _____ Dates _____ Convened by _____ Organized by _____ Report issued as doc. No/Symbol _____ Dated _____ Languages _____	Title: _____ Venue _____ Dates _____ Convened by _____ Organized by _____ Report issued as doc. No/Symbol _____ Dated _____ Languages _____
<b>Please complete list of participants</b> below, giving their names and nationalities.	<b>Please complete list of participants</b> below, giving their names and nationalities.	<b>Please complete list of participants</b> below, giving their names and nationalities.	<b>Please complete list of participants</b> below, giving their names and nationalities.

Participants List  
(Attach a separate list for each meeting)

Name	Nationality

**(b) PRINTED MATERIALS**

Report to IG Mtg	Technical Publication	Technical Report	Others
Title _____ Author(s)/ Editor(s) _____ Publisher _____ Symbol (UN/UNEP/ ISBN/ISSN) _____ Date of publication _____  (When reports/ publications have been distributed, complete <b>distribution list</b> below or attach a separate list)	Title _____ Author(s)/ Editor(s) _____ Publisher _____ Symbol (UN/UNEP/ ISBN/ISSN) _____ Date of publication _____  (Complete <b>distribution list</b> below or attach a separate list)	Title _____ Author(s)/ Editor(s) _____ Publisher _____ Symbol (UN/UNEP/ ISBN/ISSN) _____ Date of publication _____  (Complete <b>distribution list</b> below or attach a separate list)	Title _____ Author(s)/ Editor(s) _____ Publisher _____ Symbol (UN/UNEP/ ISBN/ISSN) _____ Date of publication _____  (Complete <b>distribution list</b> below or attach a separate list)

**Distribution List (IG Meeting reports/ technical reports or publications)**

Title of Report	Name of Recipient (Agency/individual recipient)

--	--

**c) INFORMATION**

TECHNICAL INFORMATION	PUBLIC INFORMATION
Description _____ _____ _____ _____ Dates _____ _____	Description _____ _____ _____ _____ Dates _____ _____

**(d) TECHNICAL COOPERATION**

Grants and Fellowships	Advisory Services	Others (materials & equipment donated)
Purpose _____	Purpose _____	Purpose _____
Place _____	Place _____	Place _____
Duration _____	Duration _____	Duration _____
For Grants/Fellowships, please indicate <b>cost (in US\$)</b> _____	Please indicate <b>cost (in US\$)</b> _____	Please indicate <b>cost (in US\$)</b> _____
<u>Beneficiaries</u> and their nationalities	<u>Beneficiaries</u> and their nationalities	<u>Beneficiaries</u> and their nationalities

**(e) OTHER OUTPUTS/SERVICES**

For example: Centre of excellence, Network, Environmental Academy, Convention, Protocol, University Chair, etc.

---

\_\_\_\_\_

---

**4. Use of outputs**

State the use made of the outputs.

**5. Degree of achievement of the objectives/results**

On the basis of facts obtained during the follow-up phase, describe how the project document outputs and their use were or were not instrumental in realizing the objectives/results of the project.

**6. Conclusions**

Enumerate the lessons learned during the project execution. Concentrate on the management of the project, indicating the principal factors which determined success or failure in meeting the objectives set down in the project document.

**7. Recommendations**

Make recommendations to:

- (a) Improve effect and impact of similar projects in the future;
- (b) Indicate what further action might be needed to meet the project objectives/results.

**8. Non-expendable equipment (value over US\$1,500)**

Please attach to the terminal report a **final** inventory of all non-expendable equipment (if any) purchased under this project, indicating the following: Date of purchase, description, serial number, quantity, cost, location and present condition, together with your **proposal** for the disposal of the said equipment (**see separate inventory format**).

FOR REFERENCE, SEE ATTACHED **DEFINITIONS** BASED ON UN TERMINOLOGIES





NB: The expenditure should be reported in line with the specific object of expenditures as per project budget. A breakdown of expenditures with related information such as name of person hired, duration of the contract, fees, purpose,.... should be reported in a separate annex on a quarterly basis as well.

**ANNEX XVI**  
**Format for cash Advance Statements**

**CASH ADVANCE STATEMENT**

Statement of cash advance as at .....  
And cash requirements for the quarter of .....

Name of cooperating agency/  
Supporting organization \_\_\_\_\_  
Project No. \_\_\_\_\_  
Project title \_\_\_\_\_

**I. Cash statement**

1. Opening cash balance as at ..... US\$ \_\_\_\_\_  
2. Add: cash advances received:

Date	Amount
.....	.....
.....	.....
.....	.....
.....	.....

3. Total cash advanced to date US\$ \_\_\_\_\_  
4. Less: total cumulative expenditures incurred US\$ ( \_\_\_\_\_ )  
5. Closing cash balance as at ..... US\$ \_\_\_\_\_

**II. Cash requirements forecast**

6. Estimated disbursements for quarter ending ..... US\$ \_\_\_\_\_  
7. Less: closing cash balance (see item 5, above) US\$ ( \_\_\_\_\_ )  
8. Less interests accrued US\$ ( \_\_\_\_\_ )  
9. Total cash requirements for the ..... quarter ..... US\$ \_\_\_\_\_

Prepared by \_\_\_\_\_ Request approved by \_\_\_\_\_  
Duly authorized official of cooperating agency/ supporting organization

**ANNEX XVII****FORMAT OF GEF QUARTERLY REPORT****1. IDENTIFIERS****Country:** [to be completed as per the Identifiers noted in the GEF Project Brief]**Focal Area:** [to be completed as per the Identifiers noted in the GEF Project Brief]**Project Title:** [to be completed as per the Identifiers noted in the GEF Project Brief]**Requesting Agency:** [to be completed as per the Identifiers noted in the GEF Project Brief]**PDF Block B or Project Funding:** US \$**Co-funding:****Other support** (in kind): US \$

(in cash): US \$

**2. IMPLEMENTATION PROGRESS**

[Statement of progress of the project components in relation to agreements or plans. Assessment of Overall status. Report on the reasons, in the event of delays, cost over-run or positive deviations]

**3. ACHIEVEMENT OF PROJECT OBJECTIVES**

[Assessment of likelihood that project objectives will be achieved.]

**4. SPECIFIC ASSESSMENT OF FACTORS RELATING TO THE PARTICULAR GEF FOCAL AREA.**

[e.g. status of the comprehensive Transboundary Diagnostic Analysis and Strategic Action Programme in the case of international waters PDFs, projects; progress in developing multi-country institutional arrangements]

**Annex XVIII**  
**INVENTORY OF NON-EXPENDABLE EQUIPMENT PURCHASED AGAINST UNEP PROJECTS**  
**UNIT VALUE US\$ 1,500 AND ABOVE AND ITEMS OF ATTRACTION**  
 As at \_\_\_\_\_

Project No. \_\_\_\_\_  
 Project Title \_\_\_\_\_  
 Implementing Agency \_\_\_\_\_  
 Internal/SO/CA (UNEP use only) \_\_\_\_\_  
 FPMO (UNEP use only) \_\_\_\_\_

Description	Serial No.	Date of Purchase	Original Price (US\$)	Present Condition	Location	Remarks/ Recommendation for disposal

The physical verification of the items was done by:

Name: \_\_\_\_\_ Signature: \_\_\_\_\_  
 (Duly authorized official)  
 Title: \_\_\_\_\_ Date: \_\_\_\_\_

*Non-expendable Equipment*

The implementing agency will maintain records of **non-expendable equipment** (items for US\$1,500 or more or with a serviceable lifetime of 5 years or more) as well as items of attraction such as pocket calculators, cameras, etc. costing more than US\$500) purchased with UNEP funds (or with Trust Funds of Counterpart Funds administered by UNEP) and will submit to UNEP an inventory of all such equipment following the inventory format attached, indicating description, serial number, date of purchase, original cost, present condition and location of each item. This list should be attached to the half-yearly progress report.

Non-expendable equipment purchased with funds administered by UNEP remains the property of UNEP until its disposal is authorized by UNEP. The (Implementing agency) will be responsible for any loss or damage to equipment purchased with UNEP funds. The proceeds from the sale of the equipment, (duly authorized by UNEP) shall be credited to the accounts of UNEP, or the appropriate trust fund or counterpart funds, upon completion of the project.

The implementing agency shall attach to the terminal report, a **final inventory of all non-expendable** equipment purchased under the project, including a **proposal** for the disposal of the said equipment. The inventory will include information such as equipment description, serial number, date of purchase, original cost, present condition and location of each item. The equipment is deemed to have been physically verified by a duly authorized official of the implementing agency.

## DEFINITIONS (BASED ON UN TERMINOLOGIES)

**ACTIVITY.** In general terms, Activity denotes a programme, subprogramme, programme element or project. Specifically, it refers to action taken to transform inputs into outputs.

**OUTPUTS.** These are specific products or services which an activity is expected to produce in order to achieve its objectives; eg., trained personnel, meetings serviced, reports, publications or advisory, editorial, translation and security services. Activities may also have intermediate outputs, which in turn may serve as inputs to other activities or final outputs.

**INTER-GOVERNMENTAL MEETING.** A meeting is intergovernmental when the participants are representatives of Governments.

**EXPERT GROUP MEETING.** The objective of an expert group meeting is to advise the secretariat on a specific subject. Participants at these meetings act in their individual capacities, even when they are nominated by their Governments.

**REPORTS SUBMITTED TO INTER-GOVERNMENTAL MEETINGS.** These are official documents brought for the consideration of intergovernmental meetings. These reports are identified by a United Nations symbol; eg. the 1988 Annual Report of the Executive Director bears symbol UNEP/GC.15/4. SWMTEP 1990-1995 bears symbol UNEP/GCSS.I/7/Add.1.

**TECHNICAL PUBLICATIONS.** These include (i) sales publications, published internally or externally; or (ii) technical or scientific bulletins, journals, newsletters and similar publications distributed free of charge when they are intended primarily for users external to the Secretariat. A technical publication is generally identified by an international standard book number (ISBN) or an international standard serial number (ISSN) for periodical publications.

**TECHNICAL REPORTS.** These include reports of a technical nature which are not widely distributed outside the Secretariat. Generally technical reports are intermediate outputs which are used as inputs into other activities.

**TECHNICAL INFORMATION.** These include information of a technical nature provided to recipients outside the Secretariat. Typical technical information in UNEP is provided by INFOTERRA, IRPTC and IE/PAC; such as responses to queries of technical nature.

**PUBLIC INFORMATION.** This category includes all material which are generally of non-technical nature, whether free of charge or sold, that is distributed by the United Nations directly or through intermediaries to the general public. The material falls into two main groups of outputs:

### 1. Publications

- (a) Books, reports, yearbooks, chronicles and biographical notes.
- (b) Periodical bulletins, newsletters, magazines and booklets.
- (c) Pamphlets, brochures, fact sheets and wall sheets.

### 2. Other public information services

- (d) Press releases.
- (e) Exhibits and other visual materials.
- (f) Films and videotapes.
- (g) Radio broadcasts and tapes of news, documentary and feature programmes.
- (h) Guided tours, group briefings, lectures and seminars.
- (i) Organization of special events.

**GRANTS AND FELLOWSHIPS.** These are funds awarded to individuals, organizations, etc. for specific activities/training. Grants and fellowships are considered final outputs.

**ADVISORY SERVICES.** Assistance provided to developing countries on environmental matters through the provision of consultants and/or UN staff expertise.

**OTHER TECHNICAL COOPERATION.** This includes among others, materials and equipment donated to developing countries for the implementation of certain projects.