

ANNEX 3

MONITORING AND EVALUATION PLAN

1. Introduction – Context and definitions

This Monitoring and Evaluation Plan (M&E Plan) is an integral tool for project management supervision providing the means to monitor and evaluate project implementation progress and performance to achieve the project objective; and enabling a comprehensive assessment of GEF's effectiveness and impacts. The M&E Plan is comprised of two very distinct elements: 1) monitoring progress, and 2) evaluating results and impacts. While both elements may use the same set of indicators, individually they use different set of tools and processes. The M&E process provides a tool for decision-makers judge project's performance, promote accountability, and conclude on lessons learned. This Annex identifies the roles and responsibilities for the M&E process then identifies the various elements of the M&E Plan. The M&E Plan, set forth in this Annex, is the same plan outlined in the project's subcomponent I.3 Project Monitoring and Evaluation; they are two of the same.

2. Responsibilities, Schedule and Tools for M&E

The M&E Plan is guided by the principles of accountability and transparency. These principles apply to both, institutions and individuals. Responsibilities for M&E are a) assigned to the various participating institutions – the Intergovernmental Coordinating Committee (CIC) and national institutions; the GEF Implementing Agency, UNEP; and the Executing Agency, GS/OAS; different project officers, according to their management functions and responsibilities; and coordinated at the national level by the National Project Units (NPU). Evaluations, on the other hand, are performed at a predetermined number of times, and decision-making corresponds to the highest level; e.g., the project's Steering Committee.

This plan fulfills the standard UNEP/GEF M&E (administrative, technical and financial,) requirements, which include a variety of different reporting mechanism, from quarterly and half-yearly progress reports; quarterly and annual statements of expenditures, including co-financing and counter-part contributions; a mid-term review (MTR); and a final evaluation. The MTR will be performed within the next quarter after project execution had reached the mid-term; that is, (i.e. within the 30th and the 33rd months of project execution), regardless the level of execution and disbursement. The final evaluation (FE) will take place once all funds had been disbursed and all activities completed; subsequently the project implementation review (PIR) will be submitted to the GEF. Daily monitoring and oversight from both the UNEP/GEF and OAS/DSD is not accounted for in the below table as it is considered as an on-going activity throughout project implementation. Table 1 below highlights the main M&E reporting requirements.

Table 1a Type of M&E Activity, Responsibility, Frequency, Tools and Reporting Documents

Type of M&E activity	Responsible parties	Means of Assessment /Monitoring Data Source	Time frame / frequency	Indicative GEF budget ¹ US\$
Inception workshop & inception report	CIC political and technical representatives, UNEP, (IA), DSD/OAS (EA), PCU, 5 NPUs,	Project document Resolutions of the steering committee meetings	Within 4 months of project commencement	40,000
MONITORING				
Update the project implementation plan (PIP), work-plans and time-tables, and budgets	PCU	PCU reports	As part of completion of Inception Workshop and Inception Report	4,500
Pilot demonstration and priority activities, confirm baselines and means of verification for activity indicators	PCU together with technical consultants and NPUs	On-site data collection	Primary level of effort at beginning of project implementation to confirm and /or define baseline indicators	125,000 ²
Verification of project progress and performance	PCU and CIC/NPU technical staff and relevant stakeholders engaged in pilot demonstrations and priority activities	On-site data collection	In line with M&E plan and annual work plan	200,000 ³
Periodic Progress Reports include priority activity and pilot demonstration reports	PCU and CIC/NPU technical staff and relevant stakeholders engaged in pilot demonstrations and priority activities together with UNEP and OAS	PCU reports	Quarterly and half yearly reports including financial reports per M&E Plan	0
Co-financing Reports	PCU and CIC/NPUs, UNEP and OAS	OAS MIS(oracle) and CIC project management system (PMS) as well as national systems	Annually in support of PIR	25,000
EVALUATION				
Steering committee meetings	Steering Committee participating members	Meetings of the SC	Annually	100,000
Annual Project Report (APR) and Project Implementation Review (PIR)	PCU , OAS and UNEP with feedback loops to concerned stakeholder for implementation of recommendation and corrective measures as appropriate	On-site data collection	Annually	0
Lessons learned	PCU together with technical officers, technical consultants NPU and technical assistants, and relevant stakeholders engaged in project activities, UNEP and OAS	PCU reports	Annually, included as part of the verification of project progress and performance	50,000
Terminal report	UNEP, OAS, PCU and CIC/NPUs as well as technical assistance	On-site data collection	At least one month before the end of the project	20,000
Mid-term external evaluation (MTR)	Independent consultant (contracted by UNEP) complete evaluation together with UNEP OAS, PCU and CIC/ NPUs	On-site data collection	Mid-term through project implementation	50,000
Independent final evaluation (FE)	Independent consultant (contracted by UNEP) complete evaluation together with UNEP, OAS, PCU and CIC/ NPU	On-site data collection	At project completion	100,000
Progress and Financial reports	PCU	OAS MIS(oracle) and CIC project management –system (PMS) – QOR-QER - HYR	Quarterly and half yearly reports included in project reporting	None, reports included in project reporting
Annual Audit	Independent consultant	On-site data collection	Annually	

¹ GEF funds only, excludes project team staff time and UNEP staff and travel expenses

² This level of effort will involved in-field surveys in priority activity and pilot demonstration sites and will engage all levels of stakeholder

³ These monitoring and evaluation activities are part of the annual work plan's activities with an indicative cost of \$40,000/annually

Type of M&E activity	Responsible parties	Means of Assessment /Monitoring Data Source	Time frame / frequency	Indicative GEF budget ¹ US\$
staff field visits	UNEP, DSD/OAS, or Government representatives	On-site data collection	Annually	(50,000) ⁴

Table 1b: Responsibilities assignments

M&E PLAN ACTIVITY	RESPONSIBILITY ASSIGNMENT		MEANS OF ASSESSMENT/ MONITORING DATA SOURCE
	INSTITUTION/ AGENCY	PROJECT/ AGENCY OFFICER	
Monitoring			
Inception phase	GS/OAS PROJECT EXECUTION COORDINATING UNIT - UNEP	GS/OAS PROJECT MANAGER PROJECT - PCU INTERNATIONAL COORDINATOR – UNEP Task Manager	Inception phase reports and resolutions of the Steering Committee
Prepare the Project Implementation Plan (PIP), Work-plans and Time-tables, and budgets	GS/OAS PROJECT EXECUTION COORDINATING UNIT	GS/OAS PROJECT MANAGER PROJECT INTERNATIONAL COORDINATOR	Project document resolutions of the steering committee meetings
Prepare Progress Reports	GS/OAS	GS/OAS PROJECT MANAGER	Project Execution Coordinating Unit's reports
Prepare Expenditure Statements (including co-financing)	GS/OAS	GS/OAS PROJECT MANAGER	GS/OAS MIS (Oracle) and CIC Project Management System (PMS)
Prepare counterpart/co-financing contribution reports	GS/OAS NATIONAL PROGRAM UNITS (NPU) PROJECT EXECUTION COORDINATING UNIT	GS/OAS PROJECT MANAGER NATIONAL COORDINATORS PROJECT INTERNATIONAL COORDINATOR	On-site data collection CIC Project Management System (PMS)
On-site supervision of Pilot demonstrations and FPPP's projects	PROJECT EXECUTION COORDINATING UNIT	NATIONAL COORDINATORS PROJECT INTERNATIONAL COORDINATOR	On-site data collection
Prepare Progress Reports of Pilot demonstrations, and Priority Activities & Studies	PARTICIPATING INSTITUTIONS	PROJECT MANAGER (Of each Demo and FPPP projects)	Projects Management Systems
Prepare Progress Reports of the FPPP	PARTICIPATING INSTITUTIONS	PROJECT MANAGER (Of each Demo and FPPP projects)	Projects Management Systems
Meetings of the Inter-ministry Committee	NPUs (Acting as Secretariat of the Inter-ministry Committees)	NATIONAL COORDINATOR	Minutes of the Meetings and documents of the Committees

⁴ Costs are charged to Implementing Agency fees, and not included in the indicative budget.

M&E PLAN ACTIVITY	RESPONSIBILITY ASSIGNMENT		MEANS OF ASSESSMENT/ MONITORING DATA SOURCE
	INSTITUTION/ AGENCY	PROJECT/ AGENCY OFFICER	
Public Participation Workshops	NPU's PROJECT EXECUTION COORDINATING UNIT	NATIONAL COORDINATORS PROJECT INTERNATIONAL COORDINATOR	Minutes of the Meetings
DDS/OAS Supervision Missions	GS/OAS	GS/OAS PROJECT MANAGER	On site data collection and previous supervision reports and corrective measures plans as appropriate
UNEP/GEF supervision missions	UNEP/GEF	UNEP TASK MANAGER	On site data collection and previous supervision reports and corrective measures plans as appropriate
Evaluation			
Meetings of the SC	PROJECT EXECUTION COORDINATING UNIT (Acting as Secretariat of the Committee)	PROJECT DIRECTOR PROJECT INTERNATIONAL COORDINATOR	Meetings of the SC
Quarterly progress reviews	UNEP	UNEP TASK MANAGER	QERs and QORs produced by the OAS in accordance with the project work schedule.
Mid-Term Review (MTR)	UNEP in consultation with GS/OAS, CIC Secretariat, NPU's, the Execution Coordinating Unit, and participating institutions and stakeholders	Independent consultant	On-site data collection
Final Evaluation (FE)	UNEP in consultation with GS/OAS, CIC Secretariat, NPU's, the Execution Coordinating Unit, and participating institutions and stakeholders	Independent consultant	On-site data collection
Annual Project Implementation Review (PIR) to the GEF	UNEP - GS/OAS - CIC PROJECT EXECUTION COORDINATING UNIT	GS/OAS PROJECT MANAGER PROJECT - PCU INTERNATIONAL COORDINATOR – UNEP Task Manager	On-site data collection – Progress reports

Table 1c: Monitoring and Evaluating Activities: Frequency, Tools, and Outputs

M&E PLAN COMPONENT/ACTIVITY	FREQUENCY	SUPPORTING TOOLS		REPORTS/ OUTPUTS		
		GS/OAS MIS (Oracle)	CIC Project Management System (PMS)	Quarterly & Half-yearly Operational Report	Quarterly & Final Expenditure Statement	Minutes & Reports (missions, meetings, progress, etc.)
Monitoring						
Prepare the Project Implementation Plan (PIP), Work-plans and Time-tables, and budgets	PIP: at the beginning of the Project Work-plans & Time-tables: Quarterly	X	X			
Prepare Progress Reports	Quarterly			X	X	
Prepare Expenditure Statements (including co-financing)	Quarterly	X	X	X	X	
Prepare counterpart contribution reports	Quarterly		X			X
On-site supervision of Pilot demonstrations and FPPP's projects	Monthly	X	X			X
Prepare Progress Reports of Pilot demonstrations, and Priority Activities & Studies	Monthly	X	X			X
Prepare Progress Reports of the FPPP	Monthly	X	X			X
Meetings of the Inter-ministry Committee	TBD					X
Public Participation Workshops	TBD					X
DDS/OAS Supervision missions	Quarterly	X	X			X
UNEP/GEF Supervision missions	Twice a year	X	X			X
Evaluation						
Meetings of the SC	Twice a year	X	X			X
Quarterly Report reviews	Quarterly					X
Mid-Term Review (MTR)	Once (1 st quarter after mid-term)	X	X			X
Final Evaluation (FE)	Once (Upon completion)	X	X			X
Project Implementation Review (PIR) to the GEF	Once a year	X	X			X

3. Monitoring and Evaluation Plan

The project's M&E plan will be guided by indicators that represent a summary description of expected results and impacts. This plan will concurrently utilize several M&E tools, which are designed to build on each other, to monitor the results and impacts and evaluate project performance. The M&E tools include the following:

- a) **Logical Results Framework Matrix** identifies performance and achievement outcome indicators for GEF global and focal area outcomes and project component and subcomponent outcomes indicators. The Logical Result Framework will be used to *both monitor and evaluate the* broader performance and achievements of the project to meet the project objective.
- b) The **Monitoring and Evaluation Plan**, designed to achieve the project objective through monitoring and evaluating performance outcomes (Table 2), process indicators (Table 3) stress reduction indicators (Table 4), and achieving sub-component, outcomes work element milestones (Table 5). It is important to note, as reflected in the M&E budget, at project commencement, a preliminary level of effort will include confirming project activity baseline indicators and means of verification.

Performance and Achievement Indicators

Performance and achievement indicators monitor project **execution progress**, to include procurement and production of goods and services, works and infrastructure, and use of resources – human and monetary resources, and assess the achievement of its goals and specific outputs, and they are also used to evaluate performance. A list of performance indicators, along with their baseline values, measured parameters, and means of verification are found in Table 2. It is worthwhile to note that these indicators reviewed during the execution of the Project, baseline values adjusted, and new indicators and/or parameters may be added as needed. The monitoring of these indicators is assisted by Project Management software, such as MicroSoft Project Manager®.

Table 2 List of Performance and Achievement Indicators⁵

Outcome Indicator/ Description	Parameters measured	Baseline	Means of Verification
GEF Strategic Objective a) Foster international, multi-national cooperation and transboundary action on priority water concerns, and b) Enhanced basin-wide capacity for adaptation to climate change and variability			
The riparian countries agree to balance overused and conflicting demands on surface and groundwater through adaptive integrated water resource management practices	TDA SAP	Baseline TDA as prepared per PDF-B	Completed TDA, and the Strategic Action Programme (SAP) provides a platform for coordinated sustainable adaptive-IWRM in the La Plata River Basin (LPB)
Increased capacity and public awareness on climate change decreases vulnerability, through adaptive integrated water resources management (IWRM) practices ⁶	Climate, meteorology and forecast service Meteorological alert and civil defense systems in	National Inventories No forecast services No alert system	Climate, meteorology and forecast services available for agriculture and navigation at the basin and sub-basin level Coordinate operations for basin-wide meteorological alert and civil defense systems in the five riparian countries in the LPB
Project Objective: Improved transboundary cooperation ensures the riparian country governments of Argentina, Bolivia, Brazil, Paraguay and Uruguay ⁷ management of the shared water resources of the LPB in an integrated sustainable manner, within the context of climate variability and change, while capitalizing on development opportunities			
1.Strengthened institutional and technical capacities of the Inter-governmental Coordinating Committee of the LPB (CIC), representing the riparian governments', increases the number and scope of coordinated agreements and collaborated actions identified in the SAP	Formalized Inter-ministerial meetings	CIC established	Institutional coordination and transboundary cooperation agreements for formalized projects Established information resources and data network for IWRM
	Number of meetings Staff assigned to (in each participating Ministry)	Process is not in place	
	Establishment of an Steering Committee	Steering Committee does not exist	

⁵ In an effort to achieve the project objective, this table corresponds with the outcome indicators described in the Logical Result Framework Matrix

⁶ Adaptive integrated water resources management considers conventional IWRM principles within the context of climate adaptation

⁷ The riparian governments operate within the framework of the Intergovernmental Coordinating Committee for the LPB countries (CIC), as the agreed intergovernmental organization set forth for this purpose in the Treaty of the la Plata Basin

Outcome Indicator/ Description	Parameters measured	Baseline	Means of Verification
2. Water sector activities provide an information foundation for adaptive IWRM in the LPB	Pilot demonstrations and Priority Activities Participating institutions Co-financing (includes GEF and other grants)	4 project proposals for pilot demonstration sites 7, Priority Activities, including major groundwater aquifers (SAYTT and Guarani); and major environmental issues, such as sediment, water quality, land degradation, biodiversity (Bermejo, FREPLATA, Pantanal, Pilcomayo, and Gran Chaco)	Pilot demonstrations reports Priority Activities reports New Projects (proposed or under execution) Number of participating institutions, and cooperation agreements Budgets of participating institutions and financial reports
3. Hydrologic risk map identifies basin vulnerabilities and catalyzes the identification adaptation measures for the LPB	Vulnerability parameters	6 (climate change, biodiversity, land degradation, contingency plans, early alert systems, and hydrological balance) Basin-wide over 500 staff	Risk map Training lectures session documents
4. The TDA and formulated hydro-climatic SAP provides the visionary foundation for sustainable management of the LPB water resources while providing increased investment opportunities	Thematic groups established Participating staff (from each participating institution, governmental, NGOs, private enterprises, organized groups of the Civil Society) Number of meetings and working sessions	Baseline TDA Framework program	IWRM SAP identified activities reflect integrated planned actions, implementation schedules, with satisfactory monitoring and evaluation (M&E) compliance
Component I: Strengthening basin-wide cooperation capacity for integrated hydro-climate management			
I.1.1 Management Structure Strengthened institutional capacities CIC, National coordinators, and Working Groups, increases the number and scope of coordinated agreements and collaborated actions identified SAP	CIC Execution Technical Unit staffing and budget National Institutions staffing and budgets Technical experts	CIC operational NPU not operational	Recommendations for harmonized legal instruments Coordination and transboundary cooperation agreements for projects Budget of the CIC Secretariat
I.1.2 With informed capacity, riparians, through the CIC, agree to recommendations for compatible legal agreements that identify specific climate and water management actions for the LPB	Comparison of national legislation and identification of common grounds	Only on specific issues basis, such as groundwater. No comprehensive framework on climate change and climate variability, or adaptation	Comparison report
I.1.3 An agreed to operationalized multi-sectoral decision support system (DSS)	Decision-making Support System outputs,	CIC Secretariat Web site and GIS and Institutional databases No DSS system in place	DSS technical databases produce thematic map for LPB Outputs from the System Hits and visits to the web site

Outcome Indicator/ Description	Parameters measured	Baseline	Means of Verification
1.2 Stakeholder Participation, Communication and Education 1.2.1 With transparent access to information about the importance of IWRM and of the quality of natural resources, an increase in stakeholders and civil society, participation involved in the pilot demonstrations, the TDA and SAP formulation	Number of workshops Number of people involve Training program Operating Manual for Public Participation Fund and progress reports Institutional Mapping Database	Website operational No training program for IWRM activities No workshop program for IWRM activities	Course training, workshop and seminars materials Workshops and seminars programs and list of participants (recipients and professors/ speakers) Operating Manual for the Public Participation Fund Progress and final reports of Fund's awarded projects Institutional Mapping Database
1.2.2 Through a public education program, of courses, workshops, and seminars stakeholders are prepared to participate responsibly in the process of the integrated management of water resources	Number of institutions involved per educational levels	No organized public awareness program for the basin Baseline will be determined at project commencement	Public awareness program at primary, secondary, and university levels
1.3 Monitoring and Evaluation Plan 1.3.1 Through a project management information system (MIS), the five riparian countries' (CIC/NPUs) have increased capacity to monitor and report on activities related to IWRM	Project Progress Reports Range of parameters identified in M&E Plan	No MIS for project reporting	Project MIS and project reporting NPU's monitoring and evaluation personnel assigned, project baseline completed, and performance and achievement indicators published Quarter Operational Reports, Half-yearly Reports, Terminal Reports, and Mid-Term and Final Reviews Program activity planning and programming reports Reports of the Inter-ministerial and Thematic Groups meetings; Quarterly Expenditure Statements prepared by the OAS, and Counterpart Expenditure Reports
1.3.2 The Mid-Term Review (MTR), Final Evaluation (FE) and Project Implementation Review (PIR) reflect satisfactory project implementation and achievement of the development objective	MTR FE	No reports	Completed Reports
Component II: Integrated Water Resources Management			
II.1.1 Integrated Water Balance	IWB methodology	No tools available for IWB Baseline will be determined at project commencement	IWB methodology Correspondence endorsing and supporting use of IWB methodology

Outcome Indicator/ Description	Parameters measured	Baseline	Means of Verification
II.1.2 Supply and demand IWB outputs, in a GIS format, identify the availability of resources for developing recommendations and criteria for the sustainable integrated water resources management, identified by end of project year 2	GIS data and maps IWRM criteria	National level databases	GIS database GIS basin sub-basin maps Report of criteria and recommendations
II.1.3 Information, through multi-media sources, is disseminated and informs the public on the issues and the availability of basin water resources	Multi-media material;	Each country has a baseline public information process and public information access	Website, Newspaper, Journals, Public information process
II.2 LPB environmental degradation model operational with forecasting capability	Environmental degradation model	Various commercial available environmental/ water quality degradation models	Operational environmental degradation model
II.2.3 Trained staff contribute to preparing the water quality action plan	Trained staff Water Quality Action Plan	Staff at various national institutions	Training manuals Training syllabus Water Quality Action Plan
II.3.1 SAYTT groundwater management guidelines address issues such as artificial recharge, protecting recharge areas, recharge continuity, and quality and conjunctive uses of surface and groundwater	Guidelines for Integrated Surface-groundwater Management Map of transboundary aquifers SAYTT SAP Guarani Aquifer System (GAS) SAP Proposal on groundwater for the la Plata SAP Aquifers SAYTT SAP GAS SAP Groundwater component for the la Plata SAP	Proposal for the formulation of the SAYTT SAP GAS SAP under formulation Baseline will be determined at project commencement	A hydro-geologic database with the basin aquifers and sub-basins Assessments from Guarani aquifer system the SAYTT activity include integrated surface and groundwater management practices SAYTT diagnostic analysis Atlas of LPB sub-basin aquifers contributes to the UNESCO-OAS-ISARM Americas Letters of endorsement and ratification of the Guideline book at the CIC Maps and GIS database of aquifers Letters of endorsement to the SAYTT SAP SAP w/ groundwater component and letters of endorsement
II.3.2 The five riparian countries accept guidelines for integrated, basin-wide groundwater management of the LPB, inclusive of transboundary legal, institutional, and socio-economic situation	Guidelines for integrated surface-groundwater Management	Individual national data on surface and groundwater Baseline will be determined at project commencement	Guidelines for Integrated Surface-groundwater Management Correspondence endorsing accepting guidelines

Outcome Indicator/ Description	Parameters measured	Baseline	Means of Verification
II.4.2 The north-south wetland-corridor biodiversity conservation strategy and management plan is prepared on the basis of the Itaipu priority activity	North-south wetland-corridor biodiversity conservation strategy Management plan	Donor supported activity in Itaipu Baseline will be determined at project commencement	North-south wetland-corridor biodiversity conservation strategy Management plan
II.4.3 An ecological corridor in the upper Paraguay, Parana and Uruguay sub-basins catchment area is defined and agreed upon by competent institutions coordinated by the CIC	Corridor defined Corridor Bio-strategy	Sub-basin upper catchment areas identified as priority ecosystems Baseline will be determined at project commencement	Corridor delineated Countries provide support for corridor conservation Corridor Bio-strategy
II.5 Control of Land Degradation Maps generated on the basis of existing information from the Bermejo, Pilcomayo, Pantanal, and Grand Chaco priority activity provide soil and critically-degraded information	Map library Project document for the Paranaense Forest Public awareness and education mechanism	Erosion vulnerability map under preparation by the Bermejo GEF-IW project Baseline will be determined at project commencement	Basin-wide maps at common projection and scale on land-use, soil-suitability, erosion susceptibility, etc. Report on use of technology and agro-chemicals Diagnostic on the Selva Misionera-Paranaens forest with an inventory of mitigation and rehabilitation measures Basin-wide land degradation control strategy Maps and GIS database Diagnostic on the Paranaense Forest and Pro doc Public awareness and education plan and endorsements
II.6 Activities using clean technologies are identified and formulated	Projects on the use of clean technologies Projects on sustainable tourism	Clean technologies available on the market but not utilized in effectively in the basin Baseline will be determined at project commencement	Investment plans for clean ecotourism technologies ecotourism TORs for up-scaling the experience of the Priority Activities to the basin Public education and awareness plan Project documents and letters of endorsement Letters of commitment for funding Clean technology investments

Outcome Indicator/ Description	Parameters measured	Baseline	Means of Verification
<p>II.7.2 <i>Hydro-Environmental Alert System at the Confluence of the Paraguay and Parana Rivers.</i> A simulation hydro-environmental alert system model predict floods, droughts and contamination spills, and contingency plans take into account safety guidelines in hydro-regulation structures, operationalized in project-year 3</p>	<p>Vulnerability maps Forecasting reports Alert communications Contingency plans Reports and minutes Training courses, seminars reports A scaling-up strategy</p>	<p>Baseline will be determined at project commencement</p>	<p>Vulnerability maps and flood maps for different scenarios of climate change Forecasting reports and alert communications available to all sub-basin communities Contingency plans completed for floods and droughts Reports and minutes of the Transboundary Water Alert Committee, and reports and minutes of meetings of the Basin Committee Training courses, seminars reports A scaling-up strategy a basin-wide Hydro-Environmental Alert System</p>
<p>II.7.3 <i>Water Use Conflict Resolution in the Rio Cuareimi /Quarai Basin.</i> A conflict resolution process in place for sustainable environmental flows in the bi-national Cuarem/Quara river border between Brazil and Uruguay</p>	<p>Management and planning instruments Cadastral system for water users registries Demand-supply analysis and conflict identification Basin zoning in relation to water use Formal Coordination mechanisms Binational Irrigation Boards Micro-hydraulic measures Scale up strategy</p>	<p>Baseline will be determined at project commencement</p>	<p>Legal framework for the Cuarem/Quara River Basin Committee and the relevant federal and national entities Contingency plans for reservoir management Public awareness and community outreach for water resources cooperation A scaling-up strategy for a basin-wide water use conflict resolution Project progress and final reports Cadastral system and outputs Land-use maps (per water use) and map of conflicts (land-uses overlaps) Zoning map Scale up strategy</p>

Outcome Indicator/ Description	Parameters measured	Baseline	Means of Verification
<p>II.7.4 4. <i>Pollution and Erosion Control in the Pilcomayo River.</i> Sustainable soil conservation practices, implemented by more than sub-basin farmers, reforestation measures in the Cotagaita basin; and reduced mining contamination in the Tasna District are fully implemented by the end of the project</p>	<p>Water drainage tunnel Community leaders trained in conservation practices, and erosion and sedimentation control practices Mining cooperative's staff trained in environmental conservation practices Tasna Buen Retiro Tail Dam Environmental Control and Mitigation Project Application of soil conservation practices Passives contamination Soil erosion and river sedimentation and filtering control practices Scale up strategy</p>	<p>Baseline will be determined at project commencement</p>	<p>Sustainable soil conservation and reforestation measures Best practices manual for reducing mining contamination in the sub-basins Demonstration project reports A scaling-up strategy basin-wide pollution and erosion control Project progress and final reports In-situ verification of control- infrastructures completed Training programs and attendance reports Scale up strategy</p>
Component III: Adaptation to climate change			
<p>III.1.1 Hydrologic risk models and hydro-climatic scenarios available for basin-wide adaptation planning for the LPB</p>	<p>Hydro-meteorological and atmospheric measures and forecast Equipment installation and operation Hydrodynamic models distribution and sub-basins coverage Number of countries that formulate scenarios and models Number of students and trained professionals</p>	<p>Argentina (www.ina.gov.ar): Hydrological forecast for the Parana River (3 and 8 days) Hydro-climatic scenarios (3 months) Brazil (www.cptec-inpe.gov.br): Hydro-climatic scenarios (3 months) Baseline will be determined at project commencement</p>	<p>Adaptation planning tools for the LPB to include a) hydro-climate forecasting system; b) integrated hydro-meteorological and atmospheric measures observation system Hydrological risk map and technical reports from the national agencies adopting proposed weather scenarios Training manuals for the use of hydrological model Contingency plans completed and adopted by stakeholders in pilot areas In-situ verification Spatial coverage. Official maps and databases Climate Change National Communications</p>

Outcome Indicator/ Description	Parameters measured	Baseline	Means of Verification
<p>III.1.2 Hydro-environmental Alert System – Floods And Droughts In The Confluence Area Of The Paraguay And Parana Rivers (Argentina, Brazil And Paraguay). Axis Resistencia-Corrientes (Argentina) – Pilar (Paraguay)</p>	<p>Design of an Alert System Risk maps Environmental Assessment of extreme hydro-meteorological events Dynamic GIS Contingency plans Experts exchanges and technology transfer</p>	<p>Baseline will be determined at project commencement</p>	<p>Project progress and final reports Maps & GIS database Minutes and reports from the Committee’s meetings Letters and other formal endorsements to the plans Binational Hydro-environmental Alert System Community Contingency and Hydraulic Works Safety Plans Transboundary Water Alert Committee</p>
<p>III.1.3 Transboundary Contingency Plans</p>	<p>Contingency plans adopted Communication plans adopted for various climate change scenarios Number of studies of current adaptation practices</p>	<p>Baseline will be determined at project commencement</p>	<p>Mass communication media. Media reports (written, audio-visual, radio and TV, etc.) Studies reports</p>
IV TDA & SAP			
<p>IV.1.1 The TDA, the basis for the SAP, identifies the priority hydro-climatic transboundary issues and root causes, identifies adaptive IWRM measures for the LPB IV.1.2 The five riparian endorses the formulated SAP for the LPB, inclusive of an institutional framework and financing plan, by the end of the project</p>	<p>TDA SAP</p>	<p>Baseline-TDA Framework program</p>	<p>The governments of Argentina, Bolivia, Brazil, Paraguay and Uruguay through in-kind support for implementing SAP recommendations Stakeholders participate actively and responsibly in the developing the SAP The riparian governments provide the political and technical support to the CIC and its executing body Letters of endorsement SAP financing commitment from five countries and stakeholders IWRM SAP identified activities reflect integrated planned actions, implementation schedules, with satisfactory monitoring and evaluation (M&E) compliance.</p>

Process and Stress-reduction Indicators

As per the GEF International Waters Secretariat (Alfred Duda et al, 2002), process indicators measure progress in the **institutional and policy** reforms necessary to implement joint actions (as proposed in a Strategic Action Program) for preventing and/or repairing environmental issues of a transboundary nature. While environmental **stress-reduction**⁸ indicators cannot be measured during the lifetime of a project, process indicators allow assessment of the likelihood of undertaking the proposed actions and their success in addressing the identified issues. Process indicators are then used to assess the effectiveness of the framework program in achieving the development objective as agreed by the five riparian countries. Many process indicators coincide with those to measure performance and achievement of the project, as institutional and policy changes are expected to occur during and as an outcome of the project. Thus, Table 3 includes select process indicators.

Table 3 List of Process Indicators

Indicator/Description	Parameters measured	Baseline value	Means of Verification
Process outcome Effective multi-national coordination and stakeholder involvement in SAP formulation			
Government commitment and ownership/ country-driven process	Counterpart contributions Staff assigned to National Development Plans (NDP)	Counterpart contribution US \$ 24,002,837 About 50 staff technically qualified to participate (Not inclusive of the framework program)	Expenditures reports from the PMS Payroll of participating institutions NDP and National budgets (Financing Ministries)
Financial commitment and support	Financing Plan Investment secured	US \$ 27,031,250 in co-financing	Letters of commitment National Budgets and NDP
Established a permanent Inter-ministerial planning mechanism	Formalization of Inter-ministerial meetings Staff assigned to (in each participating Ministry) with budget allocation Establishment of an Executive National Body (Secretariat) with a budget allocation	CIC functions but an inter-ministerial structure for IWRM no operationalized	Decrees and other legal/admin instruments of creating Inter-ministerial entities Payroll of participating ministries and agencies Budget of participating ministries
Technical capacity	CIC Secretariat Technical Capacity (personnel and equipment –it does not include personnel funded with the GEF) National Institutions Technical Capacity (personnel and equipment) Technical reports and publications	9, including the General Secretary, 2 technical advisors, 3 administrative staff, and 3 CONICET specialists 10 PC Stations –one with GIS capabilities, including ESRI and SPAN software Plotter and printers OAS 1970s la Plata series publication and cartography; GEF-Block B Publication and technical reports; on-line Institutional Database; GIS coverage and tabular data;	CIC Secretariat payroll and equipment inventory National institutions payroll and equipment inventory Reports and publications

⁸ They measure changes in the sectoral activities that threaten the environmental quality of water bodies, degrade or destroy habitats, or deplete marine resources. They can be defined by environmental parameters—physical, chemical, and biological, or by socio-economic ones.

Table 4 List of Stress Reduction Indicators

Indicator/ Description	Parameters measured	Baseline value	Means of Verification
Stress-reduction Outcome: Priority activities demonstrate stress reduction measures in areas of priority concern in the LPB			
Integrated Water Balance to contribute to IWRM of the basin's water resources	IWB methodology	No tools available for IWB Baseline will be determined at project commencement	IWB methodology Correspondence endorsing and supporting use of IWB methodology
LPB environmental degradation model operational with forecasting capability	Environmental degradation model	Various commercial available environmental/ water quality degradation models	Operational environmental degradation model
SAYTT groundwater management guidelines address issues such as artificial recharge, protecting recharge areas, recharge continuity, and quality and conjunctive uses of surface and groundwater	Guidelines for Integrated Surface-groundwater Management Map of transboundary aquifers SAYTT SAP Guarani Aquifer System (GAS) SAP Proposal on groundwater for the la Plata SAP Aquifers SAYTT SAP GAS SAP Groundwater component for the la Plata SAP	Proposal for the formulation of the SAYTT SAP GAS SAP under formulation Baseline will be determined at project commencement	A hydro-geologic database with the basin aquifers and sub-basins Assessments from Guarani aquifer system the SAYTT activity include integrated surface and groundwater management practices SAYTT diagnostic analysis Atlas of LPB sub-basin aquifers contributes to the UNESCO-OAS-ISARM Americas Letters of endorsement and ratification of the Guideline book at the CIC Maps and GIS database of aquifers Letters of endorsement to the SAYTT SAP SAP w/ groundwater component and letters of endorsement
The north-south wetland-corridor biodiversity conservation strategy and management plan is prepared on the basis of the Itaipu priority activity	North-south wetland-corridor biodiversity conservation strategy Management plan	Donor supported activity in Itaipu Baseline will be determined at project commencement	North-south wetland-corridor biodiversity conservation strategy Management plan

Indicator/ Description	Parameters measured	Baseline value	Means of Verification
An ecological corridor in the upper Paraguay, Parana and Uruguay sub-basins catchment area is defined and agreed upon by competent institutions coordinated by the CIC	Corridor defined Corridor Bio-strategy	Sub-basin upper catchment areas identified as priority ecosystems Baseline will be determined at project commencement	Corridor delineated Countries provide support for corridor conservation Corridor Bio-strategy
Maps generated on the basis of existing information from the Bermejo, Pilcomayo, Pantanal, and Grand Chaco priority activity provide soil and critically-degraded information	Map library Project document for the Paranaense Forest Public awareness and education mechanism	Erosion vulnerability map under preparation by the Bermejo GEF-IW project Baseline will be determined at project commencement	Basin-wide maps at common projection and scale on land-use, soil-suitability, erosion susceptibility, etc. Report on use of technology and agro-chemicals Diagnostic on the Selva Misionera-Paranaens forest with an inventory of mitigation and rehabilitation measures Basin-wide land degradation control strategy Maps and GIS database Diagnostic on the Paranaense Forest and Pro doc Public awareness and education plan and endorsements

Project Milestones

The project’s sub-component outcomes and work elements milestones will be monitored and evaluated at the mid-term review and end of project review. Achieving these milestones and indicators provide the basis to achieving the larger project objectives. Table 5 outlines the sub-component objectives and work element outcomes and identifies the mid-term and project completion milestones, outputs.

Table 5: Mid-Term & End-Of-Project Milestones for Subcomponent Objective & Work Element Outcomes

Sub-component Objective and Outcomes	Description of indicator	Baseline level	Mid-term milestones	End-of-project milestones
Objective I.1: Establish the technical and legal conditions necessary for providing the CIC and the participating national institutions and organizations with the capacity for integrated hydro-climate management in the La Plata basin (LPB) and for the formulation of the SAP, and its subsequent implementation	1. Institutional capacity building program	Baseline TDA identifies need to integrated management	75% of the capacity building program implemented	100% of the capacity building program implemented
	2. <i>Conceptual legal framework</i>	<i>Five different country legislation related to IWRM</i>	<i>Common concepts, principles for transboundary IWRM identified</i>	<i>Five countries agree upon conceptual legal framework</i>
	3. The LPB-DSS	Agreement for the creating a DSS with approval from the Gov. of the five	Water Resources Reference System and Digital Map 50% complete	Water Resources Reference System and Digital Map 100% complete

Sub-component Objective and Outcomes	Description of indicator	Baseline level	Mid-term milestones	End-of-project milestones
		countries		
Outcome 1.1.1: Strengthened institutional capacities CIC, National coordinators, and Working Groups, increases the number and scope of coordinated agreements and collaborated actions identified SAP	Inter-ministerial planning mechanism established	0	100% planning mechanism established and operating	100% operating with internal national agreements to sustain future action in the LPB under CIC coordination.
	Project Steering Committee established and # of meetings	CIC Project Group as a base for the Project Steering Committee	50% of the regular meetings	100% of the regular meetings planned
	Project Director	Steering Committee acknowledges need for Project Director	Project Director 100% operational	Project Director satisfactorily supervise project
	National Coordinators established in each country.	0	100% named and operating	National Coordinators manage the project in a satisfactory manner
	# of working groups for coordination of thematic issues	0	6 thematically organized working groups created and operating	4 new thematically organized working groups created and operating. Total of 10 working groups
Outcome 1.1.2: With informed capacity, riparian, through the CIC, agree to recommendations for compatible legal agreements that identify specific climate and water management actions for the LPB	Agreements at the basin-scale address key water/climate management actions	Working methodology for water quality monitoring agreed under the PDF B phase	Preliminary recommendations at the CIC for countries technical legal agreements related to protect water quality and for the creation of alert systems in the LPB.	Agreed upon recommendations for compatible legal agreements at the country levels
	Recommendations for legal harmonization for TDA & SAP	0	2 national and regional legal workshops implemented	legal recommendations identified and proposal prepared & included in the TDA and SAP
	# of Inter-institutional knowledge exchanges	0	7	15
Outcome 1.1.3: An agreed to operationalized multi-sectoral decision support system (DSS)	Agreement for the creating a DSS with approval from the Gov. of the five countries	Digital Map Approved by the CIC	Approval of the creation of the DSS in the CIC	First: Phase of the DSS of the LPB functioning in a network with the national institutions.
	DSS technical training operational	Office of the Digital Map established with equipment and CONICET-Arg personnel.	Equipment and programs installed for phase 1.	DSS functioning with assigned CIC assigned personnel.
	Contribution of information and cartography	Existing CIC national information and GEF Project. basic digital maps (Guaraní & Alto Paraguay and FREPLATA)	Links with national water & climate info. Institutions established, & SG/CIC management. Capacity available - Base map of the LPB produced	Documentary information and thematic maps of the LPB produced and accessible, with geo-referenced data in a SIG.

Subcomponent I.2

Sub-component Objective & Outcomes	Description of Output indicator	Baseline level	Mid-term target	End-of-project target
Enable increased awareness to strengthen active, structured and responsible multi-stakeholder participation in the formulating the SAP and engaging in basin activities.		0 Communication Plan 0 media options	8 media options identified and framework for material prepared	Communication plan access 8 different media sources with appropriate material related to LPB IWRM and SAP engagement
	Public Education Program with knowledge exchange material pertaining to SAP	0	10 courses in centers of excellence pertaining to SAP	20 courses in centers of excellence pertaining to SAP
	Number of projects completed, using the PPF	0%	40%	100%
Outcome 1.2.1 With transparent access to information about the importance of IWRM and of the quality of natural resources, an increase in stakeholders and civil society, participation involved in the pilot projects, the TDA and SAP formulation	1. www.cicplata.org; 2. Online interactive virtual forum; 3. Monthly bulletin; 4. Videos and TV spots; 5. Publications with support from sponsors and thematic committees; 6. Press data and information bulletins; 7. Contests and festivals related to themes in the SAP; 8. Information channels.	Various forms of media exist in the basin	Framework for media material prepared for different media options	Communication plan access 8 different media sources with appropriate material related to LPB IWRM and SAP engagement
Outcome 1.2.2 Through a public education program, of courses, workshops, and seminars stakeholders are prepared to participate responsibly in the process of the integrated management of water resources	20 workshops and seminar programs (4 per country)	0	50% of work workshops accomplished.	100% completed
Outcome 1.2.3 Fund promotes public participation with operating rules of procedures, eligibility criteria, funding and other requirements supports	Number of projects completed, using the PPF	0%	40%	100%

Subcomponent II.1

Sub-component & Work Element Outcomes	Description of indicator	Baseline level	Mid-term target	End-of-project target
II.1 La Plata River water supply and demand water balance instrument supports adaptive integrated water resources management in the Basin	1. IWB methodology	UNESCO-IHP	River basin IWB methodology established is recognized and accepted by the riparian countries	100% IWB methodology adopted and operational
	2. Regional information bank	Various basin-wide data sources	Basin-wide data sources identified and data aggregated	Project year-3 LPB IWB defined and information disseminated
	3. Institutions and media sources	Various media sources	IWB process and preliminary findings reported and information disseminated	Project year-3 LPB IWB defined and information disseminated

Sub-component & Work Element Outcomes	Description of indicator	Baseline level	Mid-term target	End-of-project target
II.1.1 With technical assistance from UNESCO-IHP, a methodology for LRB Integrated Water Balance, is recognized and accepted by the riparian countries	Dynamic Methodological Guide	UNESCO-IHP	Dynamic Methodological Guide endorsed by the five countries	IWB methodology implemented by end of project year-3
II.1.2 Supply and demand integrated water balance outputs, in a GIS format, identifies the availability of resources for developing recommendations and criteria for the sustainable integrated water resources management	Integrated Water Balance available in GIS Format	Various basin-wide data sources	Basin-wide data sources identified and data aggregated	Project year-3 LPB IWB defined and information disseminated
II.1.3 Information, through multi-media sources, is disseminated and informs the public on the issues and the availability of basin water resources	Documentation of all Water Balance activities and products to governmental level, academia and of the population in general.	Various media sources	IWB process and preliminary findings reported and information disseminated	Project year-3 LPB IWB defined and information disseminated

Sub-component II.2

Sub-component Objective & outcomes	Description of output indicator	Baseline level	Mid-term target	End-of-project target
Objective The objective is to cooperate with the national institutions responsible for water quality and contamination monitoring to develop a regional knowledge base within the framework of the CIC, and to establish a common set of parameters and a protocol for the monitoring of water quality.	Data entered into the database about the total information available	No database currently exists	50%	100% completion of the database
	Models in operation and personnel qualified to operate them	Not in existence	40% of the models to be formulated (none operational)	100% of the models operational and scenarios defined
	Definition of the program	Not in existence	20% of the common norms defined and a dissemination program being executed	100% of the program defined
Outcome II.2.1 Trained staff Information available to assess water quality and actions to mitigate pollution sources	Data sampling Equipment	Not in existence	Monitoring equipment operational Samples taken 4 per year taken at 40 sites, with 46 parameters	Established and funded water quality monitoring network with funded sampling protocol
Outcome II.2.2 LPB environmental degradation model operational with forecasting capability	Models in operation and personnel qualified to operate them	Not in existence	40% of the models to be formulated (none operational)	100% of the models operational and scenarios defined

Sub-component Objective & outcomes	Description of output indicator	Baseline level	Mid-term target	End-of-project target
Outcome II.2.3 Trained staff contribute to preparing the water quality action plan	Inter-calibration program of the participating laboratories. Training protocol for water quality	Not in existence	Inter-calibration program of the participating laboratories 75% compliant. 75% of participating staff training in water quality protocol	100%, all participating laboratories comply with inter-calibration program 100% of participating staff trained in water quality protocol

Subcomponent II.3

Objectives and outcomes	Description of indicator	Baseline level	Mid-term target	End-of-project target
Objective: Assisting the countries sharing the Plata Basin to move towards the integrated groundwater management of both the surface water and the groundwater resources of the Basin, based on the experiences of the Guarani Project and the execution of the SAYTT Priority Project.	Surface and groundwater inventory	Surface and groundwater managed separately	50%	100% - An inventory of the La Plata Basin transboundary aquifer systems integrated into the CIC Information System.
	Groundwater guidelines	Not existent	Draft guidelines	Guidelines for the integrated management of surface and ground waters in the La Plata Basin developed and adopted by the CIC.
Outcome II.3.1 SAYTT groundwater management guidelines address issues such as artificial recharge, protecting recharge areas, recharge continuity, and quality and conjunctive uses of surface and groundwater, which provide the basis of the SAYTT groundwater strategy	- A transboundary diagnostic analysis of the SAYTT agreed upon by the countries - A SAYTT Strategy includes climate change adaptation strategies, prepared and endorsed at ministerial level	The ISARM Program has identified the SAYTT as one unique transboundary aquifer system.	100% TDA for the SAYTT	100% SAYTT strategy
Outcome II.3.2 The five riparian countries accept guidelines for integrated, basin-wide groundwater management of the LPB, inclusive of transboundary legal, institutional, and socio-economic situation	- Adoption of a harmonized guidelines for the integrated management of surface and ground waters, based on the experience of the Guarani Aquifer and the SAYTT demonstration project. - An assessment of priority aquifers for the implementation of the conceptual framework, and a characterization of selected transboundary aquifers, completed.	Fragmented actions on groundwater management, not integrated into a basin management framework.	10%	100%

Subcomponent II.4

Work Element Objective and Outcomes	Description of output indicator	Baseline level	Mid-term target	End-of-project target
II.4 objective: Harmonize national biodiversity strategies within the La Plata Basin, consolidating the actions of the riparian within the context of the United Nations Convention on Biodiversity	1. North-south wetland corridor management strategy	Existing sub-basin biodiversity reports, UN Convention on Biological Diversity	50% of strategy drafted in framework format	100% of strategy completed, incorporating findings from priority activities and pilot demonstration, inclusive of recommendations for SAP
	2. Farm interventions	Intervention methodology developed by ITAIPÚ	53 (75%) farm interventions being implemented	100% of the 70 farms implement good farm practices interventions
	3. Sustainable biodiversity management strategy for the upper catchments of the LPB	GEF Bermejo, Pantanal and Freplata projects	50% of strategy drafted in framework format	100% of strategy completed, incorporating findings from priority activities and pilot demonstration, inclusive of recommendations for SAP
II.4.1 The north-south wetland-corridor biodiversity conservation strategy and management plan is prepared on the basis of the Itaipu priority activity	Common strategic actions identified at the basin level for the conservation and sustainable use Riverine wetlands and ecosystem	0%	100%	100%
II.4.2 The priority activity in the upper Itaipu area engages local stakeholder to implement measure to reduce water pollution within the corridor ecosystem	Interventions at the farm scale assisted with plans and investments grants.	0 farm	53 farms	70 farms
II.4.3 An ecological corridor in the upper Paraguay, Parana and Uruguay sub-basins is defined and agreed upon by competent institutions coordinated by the CIC	Common strategic actions to preserve and sustainable manage biodiversity corridor to be included in the SAP	0% of key stakeholders involved Possible biodiversity interventions	30% of key stakeholders involved Sustainable biodiversity interventions for the ecological corridor identified	100% of key stakeholders involved Appropriate sustainable biodiversity interventions incorporated into the SAP

Sub-component II.5

Subcomponent Objective and Outcomes	Description of indicator	Baseline level	Mid-term target	End-of-project target
Objective To harmonize national actions related with control of land degradation within the La Plata Basin, consolidating regional strategies under the United Nations Convention on Desertification.	<i>Land degradation diagnostic analysis</i>	<i>Existing databases and information sources</i>	<i>Diagnostic analysis 85% complete</i>	Findings from diagnostic analysis incorporated into SAP
	<i>Priority activity proposal and co-financing</i>	<i>Other GEF sub-basin activities</i>	<i>100% complete</i>	Findings and lesson incorporated into SAP
	Basin-wide land degradation control strategy	<i>Individual sub-basin initiatives</i>	50% complete, framework for Basin-wide land degradation control strategy agreed upon	100% completed and agreed upon Basin-wide land degradation control strategy
Outcome II.5.1 Maps generated on the basis of existing information from the Bermejo, Pilcomayo, Pantanal, and Grand Chaco priority activity provide soil and critically-degraded information	- Geo-referenced database, will include land use, soil suitability, erosion vulnerability layers and land degradation map - Diffusion material and events held in each of the countries about best practices.	An integrated base does not exist.	50% database compiled	100% completed
Outcome II.5.2 The priority activity, in the Selva Misionera-Paranaens forest, identifies root causes of land degradation, and defines erosion control and soil rehabilitation measures by the end of the project	- A GEF project document of medium size for Selva Misionera	Not in existence	100% completed	Findings and lesson incorporated into SAP
Outcome II.5.3 Lessons learnt and good practices for sustainable land management is illustrated in the basin-wide land degradation control strategy	Common agreed actions in the La Plata Basin, complementing the National Action Programs against Desertification	Not in existence	20% framework for agreed to action	100% common agreed actions

Sub-component II.6

Subcomponent Objective and Outcomes	Description of Output indicator	Baseline level	Mid-term target	End-of-project target
Promote clean technology activities that promote activities such as navigation, responsible and sustainable tourism	<i>Clean-Technologies inventory</i>	<i>Individual efforts in the micro-basins</i>	<i>100% completed inventory</i>	<i>100% training completed</i> Clean technologies promoted by the riparian
	Training Nautical Ecotourism project document proposal structured and evaluated	Not in existence	100% complete	Clean technologies are scaled up and principles included in the SAP
II.6.1 Activities using clean technologies and greenhouse sinks are identified and formulated by the end of the project	Projects selected in the regional framework and promotes the search for funding at the national level	Not in existence	50%	100%

Subcomponent Objective and Outcomes	Description of Output indicator	Baseline level	Mid-term target	End-of-project target
II.6.2 Activities promoting sustainable tourism within appropriate cultural and historic venues	Nautical Ecotourism project document proposal structured and evaluated	Not in existence	100% complete	Clean technologies are scaled up and principles included in the SAP

Sub-component II.7.1

Subcomponent Objective & Outcomes	Description of indicator	Baseline level	Mid-term target	End-of-project target
Contribute to the conservation of the biodiversity of the ichthyic resources in the Paraná River by promoting the development of management capacity of existing institutions in the Paraná River Basin at the river reach comprising the confluence of the Paraná and Paraguay Rivers	Regional strategy for biodiversity for the regulated Paraná river and the wetland corridors.	0	50% pending completion of technical support studies and activities.	100% Strategy completed and findings incorporated into the SAP
I.7.1 A Biodiversity Management Plan, reflects the findings of the complete ichthyic-faunal biodiversity evaluation in critical habitats, together with a fisheries sector socio-economic analysis, and provides recommendations for sustainable fishing methods and investment opportunities	Project well coordinated and adapted to the reality	0	- Documented execution arrangements	
	Improved knowledge for the conservation of the fish population and biodiversity in the regulated Itaipu and Yaciretá reservoirs Better diagnosis and planning Support programs for the control of the golden mussel	0	<ul style="list-style-type: none"> - An ichthyic biodiversity evaluation in critical habitats, including control measures of exotic species. - Study on the cause-effect relationships between flows, water quality, and critical habitats - Synthesis of migration patterns. Impacts of the golden mussel on the ichthyic fauna. - Compilation on the fishing biology including species of the economic and ecological importance 	
	Implementation of sustainable fisheries management by the three countries	0	<ul style="list-style-type: none"> - A socio-economic study on sport and commercial fishing, including recommendations on fishermen activities, and a proposal for legal harmonization - Involvement of stakeholders at different levels - Dissemination of educational and training material 	
	A regional strategy for biodiversity conservation shared by the three countries, for the regulated Paraná river and the wetland corridors. Improved control of fishing activities Environmental sustainability	0	<ul style="list-style-type: none"> - An environmental management plan for the area encompassed by the pilot project, agreed upon and implemented with the main stakeholders 	
	Lessons learned and recommendations for the sustainability and replication of the Pilot Demonstration	0	<ul style="list-style-type: none"> - Progress and final reports on the Project implementation performance and expected results compliance 	

Sub-component II.7.2

Subcomponent & Objective Outcomes	Description of indicator	Baseline level	Mid-term target	End-of-project target
Improve the capacity to forecast, communicate and act upon the occurrence of extreme hydrological events and spills (contamination) in the metropolitan areas of Resistencia, Corrientes and Pilar	Hydro Environmental Alert System	0	50% of alert system is in preparation in coordination with interdependent activities	100% alert system operationalized
A simulation hydro-environmental alert system model predict floods, droughts and contamination spills, and contingency plans take into account safety guidelines in hydro-regulation structures, operationalized in project-year 3	Compliance with PD objectives, budget and timing	0	Measures and Reports on the mobilization of resources and associated results for the implementation and management of the Pilot Demonstration	
	Adaptations/actions to address the hydrological effects of climate variability and change, to prevent flood and drought-related disasters.	0	A system based on institutional coordination for hydrological models for flooding and drought related disasters	
	Adaptations/actions to address the effects of upstream contaminant spillages, to prevent related disasters.	0	A system based on institutional coordination, hydrological monitoring, and spillage routing to predict its effects.	
	Organization of information and use of the models from the Activity 2 (prediction of floods and droughts) & 3 (modeling of spills) for decision-makers.	0	A Binational Hydro-Environmental Alert System.	
	Implementation of mitigation actions, in partnership with Civil Defense authorities.	0	Contingency Plans for mitigation of effects of floods and droughts, as well as of upstream contaminant spillages	
	Reliable and operational models and forecast systems	0	Specific project and studies for the development of Activity II and III	
	Support and corrective measures at higher administrative levels aiming at the sustainability and replicability of this Pilot Demonstration.	0	Follow-up & evaluation reports	

Sub-component II.7.3

Subcomponent Objective & Outcomes	Description of indicator	Baseline level	Mid-term target	End-of-project target
Project objective and Outcomes Objective To resolve water use conflicts in the Río Cuareim/Quarai Basin, situated on the border between Brazil and Uruguay	1 - Institutional frameworks at basin level within each country and in the binational context are functional	Existing institutions created by Binational Cooperation Agreement lack power and recognition	Countries decided to implement a Pilot Demonstration to develop experience on local conflict resolution	A conflict resolution environment is consolidated at basin level through institutions and procedures
	2 - Conflicts are solved within the basin management context	Conflicts still occur	Negotiation tables were formally proposed and are being formed	Negotiations tables are operating and effective
	3 - Environment conservation policy is recognized by stakeholders	Not recognized	An environmental mitigation and control plan of measures and an education program were developed	Environmental mitigation and control measures and environmental education are being implemented
	4 - Public participation mechanisms are operational in both countries	Very low degree of participation	Motivation and mechanisms for consensus building within the basin were devised and are being discussed with stakeholders	Participation mechanisms and fora implemented and active with a significant degree of public participation

Subcomponent Objective & Outcomes	Description of indicator	Baseline level	Mid-term target	End-of-project target
1. Institutional strengthening for a coordinated basin management	There are formal coordination institutions within each country and at the binational level to deal with the issues of the Pilot Demonstration	They are weak	Basin Committees were created in each country and at the binational level	Committees implemented and functioning
2. Agreed instruments, operational procedures, and experimental measures to reduce irrigation related conflicts	There are mechanisms, operational and experimental measures to reduce irrigation related conflicts	Not enforced	Robust operational procedures were designed and are under analysis and discussion by stakeholders	Management Tools , Conflict resolution and Operational procedures were consolidated and implemented in both countries
3. Environmental Information System	Information systems and management tools exist and are useful for conflict resolution	Present systems are not coordinated nor are operational in a basin basis	An integrated baseline and hydrologic and land use monitoring were developed and are operational	A water and land use basin model is being used as a management tool
4. Establishment of mechanisms to mitigate impacts on health and environmental quality	Environmental mitigation and control measures are being used and are effective	Law enforcement lack behind of what is needed	Mechanisms to improve water quality and reduce soil erosion are being implemented on a basin wise basis (50% completed)	Eco-hydrologic measures implemented in critical areas and show good results in improving water quality and soil erosion. Environmental flows are being enforced.
5. Establishment of mechanisms to mitigate natural and anthropogenic risks	Natural and anthropogenic risks are known and are under control to the extent possible	Very little knowledge is available. Damages have been very high	Vulnerability to extreme events (floods and droughts) have been determined Contingency plans were developed and are being handed over to municipalities	Municipalities are improving readiness and resilience to face extreme events based on a contingency plan. Land use control is being enforced based on legal instruments. An Alert system is functional.
6. Preparation and implementation of a formal educational and training program on water management in the basin and stakeholder participation at all levels	Stakeholders and citizens are aware of the problems caused by the land and water overexploitation resources and agree to implement management and control tools	There are some initiatives towards improving the degree of consciousness about the existing problems in the Basin	Education and training programs have been developed and implemented. At least 50% of the Basin population have attended at least one of the courses and workshops	Increased motivation and participation shows a higher level of social drive towards better living standards, base on public opinion surveys.

COMPONENT III

Project objective	Description of Output indicator	Baseline level	Mid-term target	End-of-project target
To enhance the capacity of the basin countries to anticipate and adapt to climate change and variability related impacts.	Ensemble of regional climate and hydrological projections at basin level	Isolated climate scenarios developed in the countries either from ensembles of global model outputs or single runs of regional models in the three countries	Developing a system to produce a consensual ensemble of regional climate and hydrological scenarios based on regional models nested on global models	Mid-term target plus Improving the system to include scenarios of probability functions of relevant hydrological variables. Capacity building to produce regional climate and hydrological scenarios in all the CIC countries

Project objective	Description of Output indicator	Baseline level	Mid-term target	End-of-project target
	Assessment of vulnerability to climate change in some representative cases	Risk maps of present climate in part of the flood valley of the Paraguay river. General assessment of vulnerability to climate change in some sectors and regions developed during SCN enabling activities.	Assessment with quantitative indicators focused on representative cases of vulnerability to climate change covering the issues of - firm energy of hydroelectric facilities -urban vulnerability to the most frequent intense rains - agriculture -floods	Mid-term target plus risk maps in the more important flood valleys of the Paraná and Paraguay rivers.
	Adaptation measures for agriculture, water supply and intense rains	Low general public awareness on climate change impacts. Autonomous adaptation in the agriculture sector. Reactive adaptation to increased floods.	First report on measures and policies in representative cases to: - palliate incomplete adaptations in agriculture - overcome water supply problems - mitigate the effects of extreme rainfall events	High awareness in the stakeholders related to agriculture, water supply, and intense rain. Measures and policies developed for representative cases to: - palliate incomplete adaptations in agriculture - overcome water supply problems - mitigate the effects of extreme rainfall events

COMPONENT IV

Sub-component Objective and Outcomes	Description of output indicator	Baseline level	Mid-term target	End-of-project target
A Strategic Action Program (SAP) for the la Plata Basin, technically sound and agreed, will be prepared to advance and better define priority actions identified in the framework program, based upon a TDA focused on critical sub-basins and issues	Endorsed SAP Commitments to financing the SAP	Baseline TDA Framework Program	20%	100% endorsed SAP and 100%, all five riparians commit to financing the SAP
- The TDA, the basis for the SAP, identifies the priority hydro-climatic transboundary issues and root causes, identifies adaptive IWRM measures for the LPB The five riparian endorses the formulated SAP for the LPB, inclusive of an institutional framework and financing plan, by the end of the project	Hydro-climatic TDA	Baseline TDA (from PDF-B)	60%	100%
	SAP & Financing Plan	Framework program (from PDF-B)	20%	100%

5. Costs

In terms of financing the M & E process, the total cost for M&E is US\$1,012,500.00 (GEF US\$714,500.00, US\$298,000.00 counterpart from the governments); of the US\$714,500.00 of GEF contribution to the M&E Plan, US\$370.00 is allocated under Component I, within the Technical Coordination and Administration activity, of the project. An additional US\$244,500.00 is allocated under the specific M&E Plans of the Pilot Demonstrations (US\$200,000), and Priority Activities and Studies (US\$44,500). The remaining US\$100,000 corresponds to the MTR and FE, and the meetings of the Inter-ministry Committee, allocated under this Work Element I.3.2 as follows with a total US \$ 398,000. (GEF, US \$ 100,000; counterpart, US \$ 298,000). The subcomponent will be executed during the five years of the program.

References

- Alfred Duda et al. Monitoring and Evaluation Working Paper 10 “Monitoring and Evaluation Indicators for GEF International Waters Projects.” November 2002
- GEF July 2006 IW PIR Results Template and Guidan

