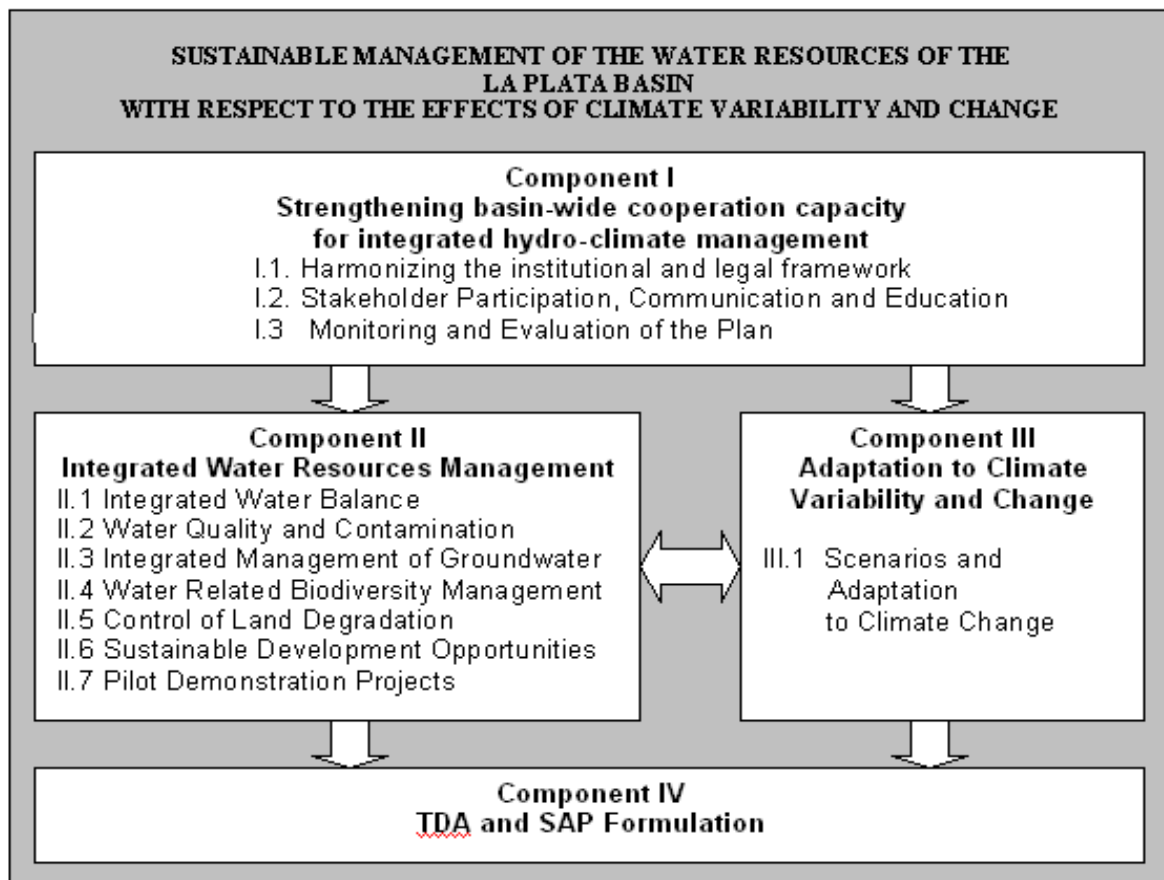


ANNEX 7
PROJECT COMPONENTS, SUBCOMPONENTS, AND WORK ELEMENTS



Components Subcomponents, Work Elements and Activities

Subcomponent	Work Element	Activities
I		STRENGTHENING BASIN-WIDE COOPERATION CAPACITY FOR INTEGRATED HYDRO-CLIMATE MANAGEMENT
	I.1	Harmonizing the institutional and legal framework
	I.1.1	Strengthened technical institutional capacity for LPB-IWRM
		a) Facilitate basin-wide cooperation for adaptive-IWRM
		b) Balancing national capabilities for TDA and SAP preparation.
		c) Implement institutional capacity building program
		d) Organize inter-institutional knowledge exchange program
	I.1.2	Conceptual legal framework
		a) Compile and prepare an adaptive-transboundary IWRM conceptual legal framework
		b) Agree on recommendations for conceptual legal framework
	I.1.3	The LPB-Decision Support System
		a) Coordinate and assess LPB national databases under institutional and legal agreements.
		b) Operationalize LPB-decision support system (LPB-DSS)
		c) Complete water resources uses and stakeholders reference system
		d) Compile digital map for LPB
	I.2	Stakeholder Participation, Communication and Education
	I.2.1	Public participation program
		a) Engage stakeholders involvement in managing the LPB
		b) Document good practices and lessons learnt for preparing the TDA and SAP
		c) Prepare and implement communication plan
		d) Engage local participation in priority activities and pilot demonstrations
	I.2.2	Public awareness education programme
		a) Compile and prepare education and training material
		b) Sign conventions and agreements between CIC and institutions for knowledge exchange
	I.2.3	Public participation fund (PPF) for IWRM
		a) Establish a PPF for IWRM
		b) Organize and facilitate the first call for proposals
		c) Organize and facilitate the second call for proposals
	I.3	Monitoring and evaluation plan
	I.3.1	Project progress monitoring networks
		a) Collect and analyze data
	I.3.2	Performance evaluations
		a) Evaluate progress toward achieving project objective
		b) Conduct Mid-term and Project Implementation Reviews
II		INTEGRATED WATER RESOURCES MANAGEMENT
	II.1	LPB integrated water balance methodology
	II.1.1	Operational integrated water balance (IWB) methodology
		a) Develop a IWB methodology
		b) Agree to and adopt IWB methodology

Components Subcomponents, Work Elements and Activities

Subcomponent	Work Element	Activities
	II.1.2	IWB for LPB
		a) Compile information and generate database
		b) Develop capacity for understanding LPB's water balance
		c) Calculate Phase 1: surface water balance
		d) Asses water use and demand
	II.1.3	IWB information disseminated
		a) Disseminate water balance information
II.2		Water quality assessment and monitoring
	II.2.1	Water quality information base
		a) Strengthen water quality riparian institutions
		b) Integrate basin-wide water quality monitoring network (in coordination with I.1.3 (b))
		c) Inventory sources of pollution
	II.2.2	LPB environmental degradation model
		a) Inventory existing environmental degradation models used in the LPB
		b) Develop an environmental degradation forecasting model
		c) Consolidate and integrate data systems into the LPB-DSS
	II.2.3	Water quality action plan
		a) Identify legal framework for water quality objectives
		b) Prepare a water quality management training program
		c) Train and disseminate water quality information
		d) Prepare water quality action plan
II.3		Integrated groundwater management
	II.3.1	Priority Activity: Sustainable Management of the Yrenda – Toba-Tarijeno Aquifer (SAYTT) system
		a) Establish technical coordination unit
		b) Conduct a transboundary hydro-geologic analysis
		c) Analyze the transboundary groundwater's legal, institutional and socio-economic situation
		d) Conduct consultations and synthesize information
		e) Prepare a SAYTT strategy
		f) Prepare and execute a SAYTT pilot demonstration
	II.3.2	Guidelines for integrated basin-wide groundwater management of the LPB
		a) Conduct transboundary hydro-geologic analysis for the entire basin
		b) Characterize basin aquifers
		c) Integrate regional experiences
		d) Prepare guidelines for conjunctive management of surface and groundwater
II.4		LPB ecosystem management
	II.4.1	North-south wetland corridor management strategy
		a) Compile and integrate existing basin ecosystem information
		b) Design a north-south wetland corridor management strategy
	II.4.2	Priority Activity: "Cultivando Agua Boa (CAB)" in the Itaipu dam's reservoir sub-basin

Components Subcomponents, Work Elements and Activities

Subcomponent	Work Element	Activities
		a) Plan and design CAB priority activity
		b) Identify and plan specific farm intervention
		c) Implement specific farm interventions
		d) Monitor and evaluate intervention activities
	II.4.3	Sustainable biodiversity management strategy for the LPB
		a) Prepare sustainable management framework for biodiversity / fisheries / aquaculture resources
		b) Design of an ecological corridor for biodiversity conservation and water protection in the upper catchments of the LPB
II.5		Controlling Land Degradation
	II.5.1	Land degradation diagnostic analysis
		a) Assess and compile basin-wide data and information on land degradation
		b) Evaluate the soil erosion processes in the basin
		c) Collect, compile and disseminate information on best-practices for land degradation control for the LPB
	II.5.2	Priority Activity: “Selva Misionera Pranaense (SMP)”
		a) Compile and analyze available technical information
		b) Prepare SMP pilot activity
		c) Implement SMP pilot activity
	II.5.3	Basin-wide land degradation control strategy
		a) Compile and integrate information and lessons learnt
		b) Prepare basin-wide land degradation control strategy
II.6		Sustainable Development Opportunities
	II.6.1	Priority Activity: Clean-technologies to mitigate climate change
		a) Explore opportunities for clean-technologies to capture greenhouse gases in the basin
		b) Select areas for mutual cooperation and secure financing
	II.6.2	Priority Activity: Nautical Ecotourism (NE) in the Lower Uruguay River/Parana Delta
		a) Study the socio-economics aspects of nautical/cultural tourism
		b) Study the environmental aspects of nautical/cultural tourism
		c) Assess the opportunities and investment potential
		d) Develop proposals for eco-cultural nautical tourism
		e) Implement and prepare implementation and financial framework to replicate priority activity
II.7		Pilot demonstrations and scaling-up strategy
	II.7.1	Pilot Demonstration: Biodiversity conservation in the regulated Parana River
		a) Establish pilot-demo coordination unit
		b) Evaluate of basin’s ichthyic fauna habitats
		c) Define a socio-economic legal framework for the basin’s biodiversity
		d) Prepare a biodiversity management plan and scale-up strategy
		e) Monitor and evaluate pilot demonstration
	II.7.2	Pilot Demonstration: Hydrologic alert system at confluence

Components Subcomponents, Work Elements and Activities

Subcomponent	Work Element	Activities
		of Paraguay and Parana Rivers
		a) Establish pilot-demo coordination unit
		b) Develop an operational forecasting and hydrological observation model
		c) Develop an operational model for contaminant spill
		d) Develop DSS for a bi-national hydro-environmental alert system
		e) Prepare contingency plans
		f) Prepare hydrological alert system manual and scale-up strategy
		g) Monitor and evaluate activity
	II.7.3	Pilot Demonstration: Water Use Conflict Resolution in the Rio Cuareimi/Quarai Basin
		a) Establish pilot-demo coordination unit
		b) Formulate an integrated management system
		c) Assess sustainable use of water resources in pilot area
		d) Put in place mechanisms for water resources conservation
		e) Monitor and evaluate activity and prepare scale-up strategy
	II.7.4	Pilot Demonstration: Control Contamination and Erosion in the Pilcomayo River
		a) Establish pilot-demo coordination unit
		b) Identify control and mitigation measures for mine contamination in Tans and train Tasana stakeholders on environmental management systems
		c) Evaluate and approved integrated management plan for the Tupiza and Cotagaita basins
		d) Design and implement, in coordination with subcomponent II.2, a water quality monitoring system for the pilot area
		e) Monitor and evaluate and prepare scale-up strategy
III		HYDROCLIMATIC MODELS AND SCENARIOS FOR ADAPTATION PLANNING
	III.1	Hydro-climatic scenarios
	III.1.1	Basin-wide climate scenarios
		a) Plan and provide training for climate issues
		b) Complete a basin-wide gap analysis of basin models
		c) Using the LPB-CLARIS model, develop hydro-climatic scenarios for the LPB
	III.1.2	Vulnerability assessment
		a) Prepare hydrological alert risk map from hydro-climatic scenarios
		b) Estimate climate change impacts
	III.1.3	Adaptation measures and public awareness
		a) Formulate a set of adaptation measures to be incorporated into the SAP
		b) Communicate with public on issues and adaptation measures
IV		TRANSBOUNDARY DIAGNOSTIC ANALYSIS (TDA) AND STRATEGIC ACTION PROGRAMME (SAP) FORMULATION

Components Subcomponents, Work Elements and Activities

Subcomponent	Work Element	Activities
IV.1		TDA and SAP
	IV.1.1	Hydro-climatic assessment for TDA
		a) Prepare hydro-climatic assessment for TDA
		b) Generate forecasts and adaptation scenarios
		c) Identify vulnerabilities and risks
		d) Compile and integrate supplemental studies that support the TDA
		e) Riparian counterparts endorse TDA
	IV.1.2	SAP formulated
		a) Collaborate with stakeholders, incorporate TDA-identified issues, and findings from priority activities and pilot-demonstrations into the SAP
		b) Riparian counterparts endorse SAP and pledge financing