Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No: 69803-BO

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED STRATEGIC CLIMATE FUND LOAN

IN THE AMOUNT OF US$ 36.0 MILLION

AND A

PROPOSED STRATEGIC CLIMATE FUND GRANT

IN THE AMOUNT OF US$ 9.5 MILLION

TO THE

PLURINATIONAL STATE OF BOLIVIA

FOR A

BOLIVIA CLIMATE RESILIENCE - INTEGRATED BASIN MANAGEMENT PROJECT

June 17, 2014

CURRENCY EQUIVALENTS

(Exchange Rate Effective August 12, 2013)

Currency Unit	=	Bolivian Bolivianos (BOB)
BOB 7.1	=	US$1
US$ 1	=	BOB 0.14

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AASANA	*Administracion de Aeropuertos y Servicios Auxiliares a la Navegacion Aerea*	Airports and Aerial Navigation Auxiliary Services Administration
CIF	*Fondos de Inversión en el Clima*	Climate Investment Funds
COSUDE	*Agencia Suiza para el Desarrollo y la Cooperación*	Swiss agency for development and cooperation
CPE	*Constitución Política del Estado*	Political Constitution of the State
CPS	*Estrategia de Alianza País*	Country Partnership Strategy
EMF	*Marco de Gestión Ambiental*	Environmental Management Framework
EU	*Union Europeia*	European Union
FPS	*Fondo Nacional de Inversión Productiva y Social*	National Fund for Productive and Social Investment
GDP	*Producto Interno Bruto*	Gross Domestic Product
GIZ	*Cooperación Internacional Alemana*	German International Cooperation
GOB	*Gobierno de Bolivia*	Government of Bolivia
HMIS	*Sistema de Informacion Hidrometeorológico*	Hydro-meteorological Information System
IA	*Organismo de Ejecución*	Implementing Agency
IADB	*Banco Interamericano de Desarrollo*	Inter-American Development Bank
IBRD	*Banco Internacional de Reconstrucción y Desarrollo*	International Bank for Reconstruction and Development
IDA	*Asociación Internacional de Desarrollo*	International Development Association
IPPF	*Marco de planificación para los Pueblos Indígenas*	Indigenous Peoples Planning Framework
IRBM	*Manejo Integral de Cuenca*	Integrated River basin management
LAC	*América Latina y el Caribe*	Latin America & the Caribbean
M&E	*Monitoreo y Evaluación*	Monitoring and Evaluation
MMAyA	*Ministerio de Medio Ambiente y Agua*	Ministry of Environment and Water
MMCS	*Mancomunidad del Cono Sur*	Community of Municipalities of the Cono Sur
MNACC	*Mecanismo Nacional de Adaptación al*	National Mechanism for Adaptation to

	Cambio Climático	Climate change
MPD	*Ministerio de Planificación del Desarrollo*	Ministry of Development Planning
O&M	*Operación y Mantenimiento*	Operation & Maintenance
PDO	*Objetivos de Desarrollo del Proyecto*	Project Development Objectives
PNCC	*Programa Nacional de Cambios Climáticos*	National Climate change Program
PND	*Plan Nacional de Desarrollo*	National Development Plan
PPCR	*Programa Piloto de Resiliencia Climática*	Pilot Program for Climate Resilience
PROMIC	*Programa Manejo Integral de Cuencas*	Program for Integrated River basin management
RPF	*Marco de Políticas de Reasentamiento*	Resettlement Policy Framework
SCF	*Fondo Estratégico sobre el Clima*	Strategic Climate fund
SDC	*Servicio Departamental de Cuencas*	Departmental River Basin Service
SEARPI	*Servicio de Encauzamiento de Aguas y Regularización del Río Piraí*	Water Channeling and Regularization Service of the Piraí River
SENAMHI	*Servicio Nacional de Meteorología e Hidrología*	National Service of Meteorology and Hydrology
SPCR	*Programa Estratégico de Resiliencia Climática*	Strategic Program for Climate Resilience
UCP-PPCR	*Unidad Coordinadora del Programa Piloto de Resiliencia Climatica*	PPCR Progam Coordination Unit
UNDP	*Programa de las Naciones Unidas para el Desarrollo*	United Nations Development Program
UNFCCC	*Convención Marco de las Naciones Unidas sobre el Cambio Climático*	United Nations Framework Convention on Climate change
VIPFE	*Viceministerio de Inversión Pública y Financiamiento Externo*	Vice Ministry of Public Investment and External Financing
VMRHyR	*Viceministerio de Recursos Hídricos y Riego*	Vice Ministry of Water Resources and Irrigation
WRM	*Manejo de Recursos Hídricos*	Water Resources Management

Regional Vice President:	Jorge Familiar
Acting Country Director:	Livia M. Benavides
Sector Director:	Ede Jorge Ijjasz-Vasquez
Sector Manager:	Emilia Battaglini
Task Team Leader:	Marie-Laure Lajaunie

PAD DATA SHEET

Bolivia

Bolivia Climate Resilience - Integrated Basin Management (P129640)

PROJECT APPRAISAL DOCUMENT

LATIN AMERICA AND CARIBBEAN

LCSEN

Report No.: PAD256

Basic Information			
Project ID	EA Category		Team Leader
P129640	B - Partial Assessment		Marie-Laure Lajaunie
Lending Instrument	Fragile and/or Capacity Constraints [ ]		
Investment Project Financing	Financial Intermediaries [ ]		
	Series of Projects [ ]		
Project Implementation Start Date	Project Implementation End Date		
01-Apr-2015	30-Jun-2020		
Expected Effectiveness Date	Expected Closing Date		
10-Oct-2014	30-Jun-2020		
Joint IFC			
No			
Sector Manager	Sector Director	Acting Country Director	Regional Vice President
Emilia Battaglini	Ede Jorge Ijjasz-Vasquez	Livia M. Benavides	Jorge Familiar Calderon

Borrower: Government of the Plurinational State of Bolivia			
Responsible Agency: Ministry of Environment and Water			
Contact:	Carlos Ortuno	Title:	Vice Minister of Water Resources and Irrigation
Telephone No.:	591-2-211-5582	Email:	carlos.ortuno@riegobolivia.org

Approval Authority
Approval Authority
Board/AOB Decision
The Project was approved by the CIF committee on October 1st, 2013.

Project Financing Data(in USD Million)							
[X]	Loan	[ ]	IDA Grant	[ ]	Guarantee		
[ ]	Credit	[X]	Grant	[ ]	Other		
Total Project Cost:		71.40		Total Bank Financing:		0.00	
Financing Gap:		0.00					

Financing Source	Amount
Borrower	25.90
Strategic Climate Fund Credit	36.00
Strategic Climate Fund Grant	9.50
Total	71.40

Expected Disbursements (in USD Million)

Fiscal Year	2015	2016	2017	2018	2019	2020	2012	0000	0000
Annual	0.50	7.00	10.00	10.00	10.00	5.00	3.00	0.00	0.00
Cumulative	0.50	7.50	17.50	27.50	37.50	42.50	45.5	0.00	0.00

Proposed Development Objective(s)

The objective of the Project is to support the implementation of Borrower's Strategic Program for Climate Resilience by: (a) strengthening the Borrower's institutional capacity to define the new integrated river basin management approach to climate change adaptation; and (b) supporting its implementation in three pilot sub-basins in the Rio Grande basin.

Components

Component Name	Cost (USD Millions)
A. Strengthening national capacity for climate change adaptation	5.25
B. Strengthening capacity for adaptation to climate change in the Rio Grande River Basin	5.15
C. Design and implementation of subprojects that improve climate resilience in the Rio Grande River Basin	61.00

Institutional Data

Sector Board

Environment

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %

Water, sanitation and flood protection	General water, sanitation and flood protection sector	60	100	
Agriculture, fishing, and forestry	Irrigation and drainage	30	100	
Water, sanitation and flood protection	Flood protection	10	100	
Total		100		

☐ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Environment and natural resources management	Climate change	50
Environment and natural resources management	Water resource management	40
Rural development	Rural services and infrastructure	5
Social protection and risk management	Natural disaster management	5
Total		100

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [X]
Does the project require any waivers of Bank policies?	Yes [ ] No [X]
Have these been approved by Bank management?	Yes [ ] No [X]
Is approval for any policy waiver sought from the Board?	Yes [ ] No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04	**X**	
Forests OP/BP 4.36	**X**	
Pest Management OP 4.09	**X**	
Physical Cultural Resources OP/BP 4.11	**X**	
Indigenous Peoples OP/BP 4.10	**X**	
Involuntary Resettlement OP/BP 4.12	**X**	

Safety of Dams OP/BP 4.37	**X**	
Projects on International Waterways OP/BP 7.50	**X**	
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
Loan Agreement Reference: Section I.A.3 of Schedule 2		31-Dec-2014	

Description of Covenant

Prior to carrying out Parts A.1 and B.2 (in the Río Mizque sub-basin) of the Project, the Borrower, through MMAyA, shall: (a) enter into an agreement with the SENAMHI under terms and conditions acceptable to the World Bank ("SENAMHI Agreement"), which shall include, inter alia, their respective roles and responsibilities.

Name	**Recurrent**	**Due Date**	**Frequency**
LA Ref.: Section I.A. 4 of Schedule 2; GA Ref.: Section I.A. 3 of Schedule 2		31-Dec-2014	

Description of Covenant

No later than 3 months after the effectiveness date, the Borrower shall, and shall cause the Gobierno Autónomo Departamental de Santa Cruz and Gobierno Autónomo Departamental de Cochabamba to, establish and maintain throughout the implementation of the Project, a management information system acceptable to the World Bank.

Name	**Recurrent**	**Due Date**	**Frequency**
LA Ref.: Section I.A. 2 of Schedule 2 and GA Ref. Section I.A. 4 of schedule 2	**X**		CONTINUOUS

Description of Covenant

The Borrower shall cause the FPS to hire and maintain, as required throughout the implementation of the Parts of the Project under its responsibility, a team of dedicated professionals in adequate number and with functions and responsibilities, qualification and experience acceptable to the Bank.

Name	**Recurrent**	**Due Date**	**Frequency**
GA Ref.: Section I.A.2. of Schedule 2 and LA Ref. : Section I.A.5 of Schedule 2.		31-Dec-2014	

Description of Covenant

The Recipient shall cause the Gobierno Autonónomo Departamental de Santa Cruz and the Gobierno Autonómo Departamental de Cochabamba pursuant to the terms of the pertinent Implementation Agreement to hire and maintain, throughout the implementation of the Parts of the Project under their responsibility a team of dedicated professionals acceptable to the Bank.

Name	**Recurrent**	**Due Date**	**Frequency**
LA and GA Ref.: Section I.A.1 of Schedule 2		31-Dec-2014	

Description of Covenant

The Recipient shall through MMAyA: (a) maintain, throughout the Project, a unit, UCP-PPCR, with operational autonomy with structure, functions and responsibilities acceptable to the Bank as set forth in the operation manual and (b) ensure that UCP-PPCR is headed by a Project Coordinator and staffed with professionals acceptable to the World Bank, as set forth in the Operational Manual.

Conditions

Source Of Fund	Name	Type
CSCF	Loan Agreement Reference: Section 5.01 (a) of Article V	Effectiveness

Description of Condition

The Borrower has adopted the Operational Manual.

Source Of Fund	Name	Type
CSCF	Loan Agreement Reference: Section 5.01 (b) of Article V	Effectiveness

Description of Condition

The FPS Agreement has been executed on behalf of the Borrower and the FPS.

Source Of Fund	Name	Type
CSCF	Grant Agreement Reference: Section 5.01 (b) of Article V	Effectiveness

Description of Condition

The Recipient has adopted the Operational Manual.

Source Of Fund	Name	Type
CSCF	Grant Agreement Reference: Section 5.01 (c) of Article V	Effectiveness

Description of Condition

At least one of the Implementation Agreements has been: (i) executed on behalf of the Recipient and (A) the Gobierno Autonómo Departamental de Santa Cruz and the SEARPI or (B) the Gobierno Departamental de Cochabamba and (ii) duly ratified (A) by the Gobierno Autónomo Departamental de Cochabamba or (B) the Gobierno Autónomo Departamental de Santa Cruz.

Source Of Fund	Name	Type
CSCF	Grant Agreement: Section IV (B) of Schedule 2, 1.(b)	Disbursement

Description of Condition

No withdrawal shall be made for payments under Category 2(a) unless the Santa Cruz Agreement has been: (i) executed on behalf of the Recipient, the Gobierno Autónomo Departamental de Santa Cruz and the SEARPI; and (ii) duly ratified by the Gobierno Autónomo Departamental de Santa Cruz;

Source Of Fund	Name	Type
CSCF	Grant Agreement: Section IV (B) of Schedule 2, 1.(c)	Disbursement

Description of Condition

No withdrawal shall be made for payments under Category 2(b) unless the Gobierno Autónomo Departamental de Cochabamba Agreement has been: (i) executed on behalf of the Recipient and the Gobierno Autónomo Departamental de Cochabamba and (ii) duly ratified by the Recipient and the Gobierno Autónomo Departamental de Cochabamba.

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Richard Abdulnour	Water & Sanitation Specialist	Water Specialist	MNSWA
Juan Marcelo Berthin Heredia	Financial Management Specialist	Financial Management Specialist	LCSFM
Chris Philip Fischer	Jr Professional Officer	Jr Professional Officer	LCSEN
Marie-Laure Lajaunie	Sr Water Resources Spec.	Team Lead	LCSEN
Camilo Lombana Cordoba	Young Professional	Water Specialist	AFTU2
Jose Yukio Rasmussen Kuroiwa	Senior Procurement Specialist	Procurement Specialist	LCSPT
Geise B. Santos	Program Assistant	Program Assistant	LCSEN
Elena Segura Labadia	Senior Counsel	Senior Counsel	LEGLE
Hector Alexander Serrano	E T Consultant	Water Specialist	LCSEN
Raul Tolmos	Environmental Specialist	Environmental Specialist	LCSEN
Jorge Trevino	Sr Water Resources Spec.	Infrastructure	LCSEN
Alonso Zarzar Casis	Sr Social Scientist	Sr Social Scientist	LCSSO

Non Bank Staff

Name	Title	Country
Marcos Andrade	Consultant	Bolivia
Jeronimo Puertas Agudo	Consultant	Spain
Maria Elena Soria	Consultant	Bolivia

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Bolivia	Departamento de Santa Cruz	Santa Cruz de la Sierra		X	Headquarters of SEARPI
Bolivia	Departamento de La Paz	La Paz		X	Headquarters of Government (MPD,

					MMAyA) and national institutions (UCP-PPCR, SENAMHI, AASANA, FPS)
Bolivia	Departamento de Cochabamba	Cochabamba		**X**	Headquarters of SDC

BOLIVIA
BOLIVIA Climate Resilience - Integrated Basin Management PROJECT (P129640)

TABLE OF CONTENTS

I. STRATEGIC CONTEXT

A. Country Context

1. Bolivia covers a total area of 1.1 million km^2; of which 25 percent corresponds to the Highlands, 15 percent to the Inter-Andean Valleys and 60 percent to the Lowlands. Two third of the 10 million inhabitants live in urban areas.

2. Bolivia's strong economic performance over the past decade is likely to continue into the coming years. Annual gross domestic product (GDP) growth has averaged 4.8 percent over the last ten years and is likely to remain above 5 percent in 2014. Furthermore, rapidly increasing public investment has spurred growth in the construction, manufacturing, finance, transport, and communications sectors. Current account and fiscal balance surpluses have prevailed over the last ten and six years, respectively. This has allowed Bolivia to accumulate sizable buffers in order to face eventual negative external shocks. Similarly, Bolivia's relative isolation from international financial markets has helped the country withstand the international crisis whilst continuously accumulating buffers. Assuming commodity prices will remain stable and no new international crises occur, Bolivia will likely maintain its robust economic growth and healthy macroeconomic balances during upcoming years. Nevertheless, Bolivia is still exposed to shifts in international commodity prices as low investment rates could constrain its longer term growth prospects.

3. Although Bolivia has been able to substantially reduce both poverty and inequality, poverty remains high – particularly in the rural area – and varies widely across regions. According to the national poverty line measure, poverty markedly decreased from 63 percent of the population in 2002 to 45 percent in 2012, while extreme poverty reduced from 37 percent in 2002 to 22 percent in 2012. Inequality—as measured by the Gini coefficient—has decreased from 0.60 in 2002 to 0.47 in 2011. Moreover, between 1994 and 2008, the Human Opportunity Index rose from 45 percent to 66 percent due to improvements in children's access to health, education and other basic services. Nevertheless, poverty still affects more than 61 percent of the rural population, almost twice the urban poverty rate.

B. Sectoral and Institutional Context

4. The geographical location of Bolivia, combined with high level of poverty, makes it a particularly vulnerable country to climate change. The gradual increase of average temperature is bringing disruptive changes to the hydrological cycle, increasing the variability, frequency and intensity of floods and droughts. Water scarcity, mainly caused by increased water demand from population and economic growth, is being exacerbated in some areas by glacier melting, changes in precipitation patterns, increased evapotranspiration, as well as watershed degradation and changes in land use. The negative impact of these trends on the economy, the welfare of the people and the ecosystems is already being felt and is particularly strong on vulnerable groups, the poor, women, children and the elderly.

5. Bolivia has begun to take steps building a society resilient to climate change. To achieve the national priorities of "living well" as defined in its 2006-2015 National Development Plan (PND, by its acronym in Spanish), Bolivia is striving to include considerations of climate

resilience in development planning, budgeting and investments. Two key documents outline Bolivia's policies related to climate change: the Ley of Mother Earth and the Strategic Program for Climate Resilience (SPCR). The SPCR outlines the Government's long-term vision to achieve a climate resilient development trajectory and defines the underlying investment program endorsed by the Climate Investment Funds (CIF) Pilot Program for Climate Resilience (PPCR) sub-committee in November 2011.

6. Bolivia's strategy towards climate change adaptation, as defined in the SPCR, consists in the implementation of an integrated, multi-sectoral, participatory, basin-scale approach to water management. This approach is justified because: (i) most climate change impacts are channeled through the water cycle which is defined at the basin level; (ii) these changes in the hydrological cycle will affect various sectors and (iii) stakeholders and community participation will lead to more sustainable results, improved management outcomes and reduced conflicts.

7. The SPCR will be implemented in four pilot sub-basins chosen to span the three main eco-regions in Bolivia (highlands, valleys and lowlands) and cover three main climate challenges (droughts, floods, and diminishing water supply). The first pilot is targeted at the main high-altitude urban conglomeration in Bolivia facing increasing water scarcity, in part due to receding glaciers (La Paz – El Alto). The second and third pilots are located in the Mizque and Rocha sub-basins, in the mid altitude valleys. In those sub-basins, increasing water scarcity and drought are becoming a constraint to agriculture and poverty alleviation (Mizque) and putting at risk water supply for the city of Cochabamba (Rocha). The fourth pilot is in the Pirai sub-basin, in the lowlands, where the increasing incidence and magnitude of flood events is affecting commercial, export oriented agriculture and the city of Santa Cruz.

8. The PPCR will finance part of the SPCR investment program. The Inter-American Development Bank (IADB) will support the implementation of the first pilot, while the proposed Project will implement the pilots in the Rio Grande Basin as well as the capacity building of key central level institutions.

9. The proposed Project will follow a first phase of activities (PPCR-Phase 1) financed by a US$1.5 million grant provided under the PPCR trust fund (Grant No. TF098449) that is closing in June 2014. Among other things, the first phase financed the preparation of the SPCR.

C. Higher Level Objectives to which the Project Contributes

10. The Project will support one of the three strategic areas of the 2012-2015 Country Partnership Strategy (CPS) for Bolivia (report # 65108, discussed by the Executive Directors on: December 1st, 2011), namely Sustainable Productive Development, and one of its outcomes, namely reduce social, economic and environmental vulnerability to climate change. The PPCR is a key part of the World Bank's support to Bolivia's efforts to adapt to climate change. The Project will also contribute to reducing extreme poverty and promoting shared prosperity, as the poor and vulnerable groups, such as women, children and the elderly are the most vulnerable to climate change impacts. Also the participatory mechanisms in basin planning and subprojects identification have been designed to be inclusive.

11. The Project will also contribute to the Government higher objective of reducing the country's vulnerability to climate change as stated in its PND (2006-2015). More specifically, Policy 5 "*Adaptation to global environmental changes, protection of the ozone layer, and persistent organic pollutants*" seeks to improve the resilience of vulnerable systems to climate change.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

12. The Project Development Objective (PDO) is to support the implementation of the Borrower/Recipient's s Strategic Program for Climate Resilience by: (a) strengthening the Borrower/Recipient's institutional capacity to define the new integrated river basin management approach to climate change adaptation and (b) supporting its implementation in three pilot sub-basins in the Rio Grande river basin.

B. Project Beneficiaries

13. Direct beneficiaries are:

(a) Government institutions. The capacity of the Ministry of Environment and Water (MMAyA), the Water Channeling and Regularization Service of the Piraí River (SEARPI) of Santa Cruz and the Departmental River Basin Service (SDC) of Cochabamba will be strengthened in climate resilient, integrated, basin-scale water resources management and in climate resilient sub-project implementation. The Ministry of Planning (MPD) will receive technical assistance and training to better incorporate climate change adaptation in development planning and investment. The National Service of Meteorology and Hydrology (SENAMHI) and SEARPI hydro-meteorological information system will be strengthened too.

(b) Direct beneficiaries of the subprojects carried out in the pilot sub-basins are expected to be farmers (including Indigenous communities) and, more generally water users, currently affected by increasing droughts and water scarcity (mostly in Mizque and Rocha) and the general population and public and private institutions whose livelihood or assets may be affected by flood events (mostly in the Pirai sub-basin). The poor that are more likely to be located in areas prone to flood and drought and less resilient to those events are expected to benefit more.

(c) Direct beneficiaries of the improved water and climate information system include academia and a range of sectors from water supply, agriculture, and disaster risk management to land development, insurance, tourism, social and technical infrastructure and utilities construction and operation, aviation, and other productive sectors. They will benefit from improved access to more timely and accurate hydro-meteorological information.

14. In the medium and long terms, the methodology and guidelines developed by the Project for climate resilient investment planning and subproject design, and piloted in the sub-basins, will be replicated in other sub-basins, thereby multiplying Project beneficiaries.

C. PDO Level Results Indicators

15. The achievement of the PDO will be measured through the following indicators:

(a) Adoption[1] by the Government[2] of an Integrated River Basin Planning Methodology that considers climate change scenarios;

(b) Number of government institutions using the tools developed and knowledge created by the PPCR for Climate Change Adaptation[3];

(c) Availability and adequacy of timely and reliable hydro-meteorological data, forecasts and climate change related studies, measured through the increase in target users[4] satisfaction;

(d) Number of pilot sub-basins where an Integrated River basin management system[5] focused on improving climate resilience[6] is operational[7];

(e) Direct Project Beneficiaries[8] (core indicator) and percentage of female beneficiaries (core indicator).

III. PROJECT DESCRIPTION

A. Project Components

Component A: Strengthening National Capacity for Climate Change Adaptation

16. *Sub-component A.1. Creating the National Climate and Water Information System* through, *inter alia*: (a) (i) designing the national climate and water information system; and (ii) establishing said system in the MMyA, the SENAMHI and the SEARPI (including provision of training thereof); and (b) carrying out hydro-meteorological and climate change related studies.

17. *Sub-component A.2. Integrating Climate Change Adaptation into selected Planning and Investment Tools* through, *inter alia*: (a) updating: (i) the national guidelines on climate resilience

[1] Through an official communique such as a letter of instruction, decree, etc.
[2] MMAyA through its vice-ministry of water resources and irrigation
[3] Through a survey and an audit
[4] Annual survey of academia, national and local disaster and risk management institutions and key general users.
[5] Including a participatory River Basin Management Plan, an executing agency, participation of all water users through a representative association/institution.
[6] As defined in national guidelines and/or the River Basin Management Plan.
[7] The River Basin management Plan is agreed upon in a participatory process, agencies and association are staffed and sustainable, design and implementation of relevant sub-projects is well under-way.
[8] From sub-projects only.

basin-scale planning and management; (ii) the guidelines for the carrying out of pre-investment studies for water sector related investments; (b) providing inputs on climate change adaptation to the Borrower's national planning (the National Development Plan): and (c) the provision of training on the use of said updated tools.

18. *Sub-component A.3.Support to the UCP-PPCR* for, *inter alia*: (a) implementing Parts A and B of the Project and monitoring and supervising the Project, including auditing Parts A, B and C2 of the Project; and (b) coordinating, monitoring, evaluating the Project, and disseminating related findings and lessons learned.

Component B: Strengthening Capacity for Adaptation to Climate change in the Rio Grande River Basin.

19. *Sub-component B.1. Strengthening Institutions and Planning for Integrated and Participatory Water Resources Management and Climate Change Adaptation in the pilot sub-basins*. This will finance *inter-alia*: (a) strengthening the SEARPI and the SDC's institutional capacity for an integrated, participatory, basin-scale, climate resilient planning and management in their respective Pilot Sub-basins; (b) establishing mechanisms to facilitate stakeholders participation in river basin planning; and (c) formulating integrated, multi-sectorial, participatory, climate resilient river basin management plans in the Pilot Sub-basins.

20. *Sub-component B.2. Strengthening the Water and Climate Information Systems in the pilot sub-basins through, inter alia:* (a) updating the hydro-meteorological observation networks; and (b) establishing and/or strengthening the data processing centers and early warning systems for flood and droughts.

Component C. Design and Implementation of Subprojects that improve climate resilience in the Rio Grande River Basin.

21. *Sub-component C.1. Infrastructure subprojects.* (a) design and implementation of pre-investment studies (including the environmental and social aspects) of the Infrastructure Subprojects; (b) based on said studies, carrying out of Infrastructure Subprojects; (c) provision of training to Eligible Beneficiaries for the operation and maintenance of the Infrastructure Subprojects; (d) financing FPS Operating Costs for the implementation, supervision and auditing of the activities under sub-component C.1 (b) and (c).

22. *Sub-component C.2. Watershed Management Subprojects*[9]. (a) Design and implementation of pre-investment studies (including the environmental and social aspects) of the Watershed Management Subprojects; (b) based on said studies, carrying out of Watershed Management Subprojects; (c) provision of training to Eligible Beneficiaries for the operation and maintenance of Watershed Management Subprojects; and (d) provision of support to the SEARPI and the SDC for the implementation and supervision of the activities under sub-component C.2 (a), (b) and (c) of the Project under their respective territorial jurisdiction.

[9] Sub-component C2 will be financed through the CIF Grant. Its specific objective is to increase socio-economic and natural systems resilience to climate change in the pilot basins by improving natural resources management through the implementation of land and water conservation sub-projects.

B. Project Financing

Lending Instrument

23. The lending instrument is an Investment Project Financing Loan and Grant.

Project Cost and Financing

24. The total cost of the Project is estimated at US$71.4 million. The Project will be financed through a $9.5 million grant and a $36 million loan from the CIF's Strategic Climate Fund (SCF). In addition, there will be $25.9 million of contributions from national, departmental and municipal government.

Project Cost and Financing (US$ million)

Components	Total Cost	CIF Financing		Counterpart Funds
		Loan	Grant	
Component A: Strengthening national capacity for climate change adaptation	**5.25**	**4.75**	**0.5**	**0**
Sub-component A.1. Creating the national climate and water information system	2.38	2.38	0	0
Sub-component A.2. Integrating climate change adaptation into selected planning and investment tools	0.15	0.15	0	0
Sub-component A.3. Support to UCP-PPCR	2.72	2.22	0.5	0
Component B: Strengthening capacity for adaptation to climate change in the Rio Grande River Basin	**5.15**	**5.15**	**0**	**0**
Sub-component B.1. Strengthening Institutions and Planning for Integrated and Participatory Water Resources Management and Climate Change Adaptation in the Pilot Sub-basins	2.80	2.80	0	0
Sub-component B.2. Strengthening the water and climate information systems in the pilot sub-basins	2.35	2.35	0	0
Component C: Design and implementation of subprojects that improve climate resilience in the Rio Grande River Basin	**61.00**	**26.10**	**9.00**	**25.90**
Sub-component C.1. Infrastructure Subprojects	49.00	26.10	0.00	22.90
Sub-component C.2. Watershed Management Subprojects	12.00	0.00	9.00	3.00
Total	**71.40**	**36.0**	**9.50**	**25.90**

C. Lessons Learned and Reflected in the Project Design

Implementation arrangements

25. Past experiences in Bolivia have shown that for Project implementation at the national level, it is best to rely on administratively autonomous Project Implementation Unit reporting directly to a Minister to have better chances of success in the Project administrative and technical

implementation, curtailing the risks of implementation delays (PPCR phase 1; PAR[10] and the PDCR[11]).

26. Another lesson is that the participation and strengthening of existing technical organizations is key to encourage the replication and continuation of the approach developed once the Project closes. The Project will rely on, and strengthen, institutions that have the legal mandate for river basin management in the departments of Cochabamba and Santa Cruz: SDC and SEARPI. It will also strengthen SENAMHI the institution responsible for hydro-meteorological information at the national level.

27. Finally, the Project will rely on the FPS for the implementation of infrastructure subprojects because it has a long track record working with World Bank and other donors on similar types of subprojects (PDCR, PAR, PREGD[12] and PDSLT[13]).

Subprojects sustainability and resilience

28. International good practices and specific experiences in Bolivia (such as the Bank-financed PDCR or the CAF[14]-financed MiAgua) show that strong ownership of subprojects is essential to guarantee their long-term sustainability and effective use and that organizations responsible for their management should receive sufficient training and support. Accordingly, the Project will: (a) follow a participatory approach whereby beneficiaries will take part in subproject identification, design, financing/implementation and operation and maintenance and (b) offer training and support to the organizations responsible for operation and maintenance.

Climate change adaptation, water resources management and information

29. Most of the effects of climate change on the welfare of the population, the economy and ecosystems are channeled through the hydrological cycle. Hence, the main pillar of Bolivia's adaptation strategy concerns the improvement of water resources management (WRM). International good practices (i.e. 1992 Dublin Principles, 2000 EU Water Framework Directive, 1993 World Bank WRM Water Policy) indicate that WRM should follow an integrated and participatory approach at the basin level. The Project will support three principles through basin planning (see appraisal summary – technical for more details).

30. The medium and long-term effects of climate change are very uncertain. In this context, international good practices (i.e. 2000 EU Water Framework Directive, United Nations Guidance on Adaptation and climate change, 2009) recommend to adopt an adaptive strategy to WRM and to improve information on climate change effects to manage uncertainties. In this context, the Project will support the development of 20-year river basin plans that will be revised every 5 to 6 years to scale up or scale down responses to climate change in accordance to monitored data. The Project will also improve water and climate information at national and river basin levels.

[10] *Proyecto de Alianzas Rurales*.
[11] *Proyecto de desarrollo concurrente regional*.
[12] Emergency Recovery and Disaster Management Project.
[13] Local Development Sustainable Project.
[14] *Corporación Andina de Fomento*, i.e. Andean Development Corporation

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

31. The PPCR Coordination Unit[15] (UCP-PPCR) will be responsible for overall Program and Project coordination, M&E of the overall PPCR program along with MPD and knowledge generation and dissemination with regard to climate change adaptation approaches. It will also be responsible for overall fiduciary aspects (procurement and financial management) of components A and B as well as technical implementation of sub-components A.2 and A.3.

32. When the new national institution for climate change adaptation is in place, the Bank will assess the convenience of transferring overall coordination of the PPCR program to this new institution.

33. MPD will be responsible for the technical implementation of component A.2 (a) (iii). It will also have an important role in the Program M&E and the dissemination of the lessons learned and tools developed by the Project.

34. SENAMHI will be responsible for the technical implementation of sub-components A.1 and sub-component B.2 in the department of Cochabamba.

35. FPS will be responsible for the implementation of subprojects under sub-component C.1 once feasibility studies are prepared by the Departments of Santa Cruz and Cochabamba.

36. SEARPI and SDC will be responsible for the technical implementation of sub-component B.1, as well as the fiduciary and technical implementation of sub-component C.2 and the feasibility studies under sub-component C.1. SEARPI will also be responsible for the technical implementation of sub-component B.2 in its jurisdiction.

37. Inter-institutional Agreements will be signed between the UCP-PPCR/MMAyA on one hand and the Departmental Governments of Santa Cruz and Cochabamba on the other. Those agreements will specify the Project implementation responsibilities of each party.

Participation of beneficiaries and stakeholders

38. The Project's implementation will be highly participative, especially with regard to the formulation of the river basin plans and the identification, financing and O&M of the sub-projects. Those activities will also pay close attention to foster the participation of women and indigenous people.

Participation of development partners

39. Project preparation was carried out in close cooperation with IADB and with the Bolivia Group of Development Partners for climate change adaptation and water resources

[15] UCP-PPCR was created in April 2012 to be responsible for the overall implementation of the PPCR program, as required by the SPCR.

management[16]. This close coordination is expected to continue during Project implementation, especially with IADB that is financing the first pilot of the PPCR and with COSUDE, GIZ and JICA who will finance complementary activities in the Rio Grande River Basin. More specifically, COSUDE will provide: (a) support to basin planning (b) capacity building of SDC in climate change adaptation and climatic risk management and (c) capacity building of municipalities in early warning systems. GIZ support will include: (a) the strengthening of the tools for the River Basin Management; (b) stakeholder capacity building for Integrated Water Resources Management and Micro-watershed management, (c) technical advice in the development of tools for climate change adaptation, particularly in the agricultural sector. JICA will finance complementary activities in the Rio Rocha basin through a technical cooperation to start in January 2014 and last 2-3 years. Activities to be supported will be defined in the coming months. More generally, the UCP-PPCR will consistently seek synergies with the projects supported by these Development Partners in order to leverage existing tools and processes and in order to ensure that its activities complement those of the projects financed by these agencies.

B. Results Monitoring and Evaluation

40. The UCP-PPCR will have overall responsibility for Project monitoring and evaluation (M&E). The Ministry of Planning will also have an important role, especially in the dissemination of lessons learned and the promotion of the planning and investment guidelines developed by the Project for their use nationally. As the main counterpart of the World Bank in Bolivia, it also has a special role in overseeing Project implementation and ensuring it meets its objectives. This is done in particular through the review of the semi-annual Project progress report; the participation in the World Bank quarterly portfolio review for Bolivia and the signing of the World Bank mission Aide-Memoire. The UCP-PPCR will submit semi-annual progress reports, baseline studies, the mid-term review and the final project evaluation to the Bank and MPD. Under sub-component A.3, an estimate of US$500.000 is earmarked for M&E. This amount includes data collection, equipment, software, training, and operating costs. Details on the approach and implementation arrangements for M&E are in Annex 3.

C. Sustainability

41. The following paragraphs identify the factors that are critical to the sustainability of the Project's objectives and explain how these factors were considered in Project design:

(a) As the coordinating unit for all PPCR activities, namely the implementation of activities under the SPCR, the UCP-PPCR is interested to look beyond the Project's results towards a longer 10-20 year horizon. It is also interested in replicating the approaches developed in the pilot basins to other basins in the country.

(b) Project implementation in the sub-basins will rely on departmental institutions which have the legal mandate for river basin management in their jurisdiction, and have been institutionally stable. Project implementation through these institutions should

[16] German Technical cooperation agency (GIZ), Swiss Cooperation Agency (COSUDE), JICA, United Kingdon, UN Agencies (UNDP, WFP), Belgium Int. Cooperation, Italian Int. Cooperation Agency, Denmark Int. Cooperation Agency.

ensure that the climate change adaptation approach through river basin planning developed and implemented by the Project will be sustained over time and replicated in other sub-basins. It should also ensure that the application of the guidelines that the Project will develop for designing climate resilient irrigation subprojects will continue being used once the Project closes.

(c) Furthermore, based on the experience in the pilot sub-basins, the Project will support the preparation and dissemination of national guidelines on climate change adaptation through river basin planning. These national guidelines will favor broader adoption of the Project approaches throughout the country. Close coordination with other donors who are working in similar topics will also be critical to ensure that they are widely applied.

(d) Subproject sustainability will be ensured through the adoption of a demand-driven and participatory approach to subproject development, thereby fostering local ownership. In addition, all subprojects will include training of the entities responsible for their O&M.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings Summary Table

Stakeholder Risk	**Moderate**
Implementing Agency Risk	**Substantial**
- Capacity	Substantial
- Governance	Moderate
Project Risk	**Substantial**
- Design	Substantial
- Social and Environmental	Low
- Program and Donor	Low
- Delivery Monitoring and Sustainability	Moderate
Overall Implementation Risk	**Substantial**

B. Overall Risk Rating Explanation

42. Implementation risk is expected to be substantial, mainly as a result of a weak institutional environment with low fiduciary capacity, but also as a result of the adoption of a strong integrated and participatory approach that will involve multiple actors and beneficiaries. This will require a strong attention to the implementation of early and efficient capacity building activities, especially for fiduciary and financial roles. Implementation risk is reduced by the fact that (a) some activities under phase 2 of the PPCR are the continuation of activities that started under phase 1; (b) the UCP-PPCR already exists, albeit with a limited capacity, as the implementing agency of Phase 1 and (c) FPS, SEARPI and SDC are institutions with experience in managing Development Partners projects.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analyses

43. The Project provides benefits mainly in two major ways:

(a) Through the improvement of the water and climate information system which is expected to strengthen decision-making processes.

(b) Through the piloting of innovative investment planning and subproject design methodologies that will enhance climate resilience at the sub-basin level and are expected to be scaled-up in the medium and long terms in other basins.

44. The economic analysis of the subprojects, which represents about 80 percent of the Project's total cost, follows a "framework approach". Under this approach, the economic viability of each subproject will be evaluated on a case by case basis during Project implementation. Those deemed not economically viable will not be carried out. The methodology to be followed for subprojects screening is further described in the Operation Manual. It is expected to follow the methodologies established in the national guidelines for public investment projects that is to say, based on the type of subproject considered and its investment cost, project economic viability is determined based on unit cost thresholds or full cost-benefit analysis.

B. Technical

45. *Overall Project approach to climate change adaptation*. Most of the effects of climate change on the welfare of the population, the economy and ecosystems are due to disruptive changes to the hydrological cycle brought about by gradual increases of average temperature. Disruptive changes to the hydrological cycle include the increased frequency and intensity of droughts and floods. Water scarcity, while mainly caused by increased water demand from population and economic growth, is being exacerbated in some areas by climate change. It negatively impacts the multiple water users in a river basin by affecting or putting at risk water availability for human consumption (with indirect impacts on human health), for agricultural and livestock production (with impacts on food security, income from agricultural exports, and rural and urban poverty), water for hydropower generation, for mining and industrial activities, and for the ecosystems. The Project's main approach to climate change adaptation is therefore to improve the management of water resources.

46. *Climate resilient, integrated, participatory, basin-scale water resources planning and management*. In line with international good practices, the Project will promote the adoption of an integrated, participatory and basin-scale approach to water resources management (WRM). The river basin being the geographical unit where hydrological cycle is defined, it is also the spatial unit of choice for WRM, extreme weather events management and climate change adaptation. Within this unit the coordination between all water users (including the environment), polluters or any other stakeholder that may alter the hydrological cycle is essential because they share the same limited water resources. The multilateral benefits of stakeholders and community participation by increasing ownership and accountability is related to more

sustainable and widely accepted actions, transparency, improved management outcomes and reduced conflicts. In addition, the step-wise and cyclical approach of the river basin management planning process facilitates adaptive management of climate change impacts. It enables the reconsideration and adjustment of plans in response to climate change in accordance with monitored data. Moreover, long-term climate projections will be integrated into the planning process and the design of measures that have a long design life and high costs.

47. *Selection of Project area* (see paragraph 7).

48. *Water and Climate Information System*. To ensure a successful WRM and climate change adaptation approach, a significant portion of the Project is dedicated to the modernization of the hydro-meteorological information system. The UCP-PPCR will be hosting a centralized platform of broad, climate-change related data and documentation that will be integrated with SENAMHI's databases (SENAMHI remains the main host and purveyor of hydro-meteorological data emanating from their network of stations). Hydro-meteorological information services will be strengthened. It refers to the provision of weather, water and climate-related products to assist user's decision-making and planning in climate sensitive activities. These products include information on past trends and projections of river flow and extreme weather events, weather and climate–related forecasts, agricultural outlooks and impacts of climate changes at different spatial and temporal scales. This is a critical issue in Bolivia, where the most recent water balance is 20 years-old; the density of the hydro-meteorological networks is significantly inadequate and available data is mainly dedicated to early warning systems and rarely digitized and shared among institutions, even less so with the general public.

49. *Early Warning Systems*. A complete and effective early warning system should comprise four key elements: risk knowledge, climate-related hazards monitoring and warning capacity, communication and dissemination capacity, and response capability. In addition, effective governance and inter-institutional arrangements/mechanisms and the involvement of local communities are critical issues to the development and sustainability of effective early-warning systems. The current Project focuses on good data capture, real-time control, and modeling of extreme events and impact areas, population warning mechanisms, evacuation plans, awareness-raising workshops in areas of potential risk.

C. Financial Management

50. A financial management capacity assessment was carried out to review the adequacy of the financial management arrangements under each of the proposed implementing entities i) MMAyA, through UCP-PPCR ; ii) FPS ; iii) the Departmental Government of Santa Cruz through the decentralized entity SEARPI; and iv) the Departmental Government of Cochabamba through SDC.

51. Overall, Project design is complex, because of the number of entities involved at different levels of government (national, departmental and municipal), but also due to the nature of the activities to be financed (e.g. subprojects at local level which require interaction with municipal governments, communities and other beneficiaries). Although no transfer of funds to subproject beneficiaries is envisaged, adequate management of subprojects requires sound operational arrangements, including for financial management, which need to be maintained throughout

Project life; and which are not yet fully implemented in all involved entities. Out of the four implementing entities, only FPS is a well-established entity that has put in place acceptable financial management arrangements; which, with minor adjustments to accommodate its interaction with the respective Departmental Governments, can adequately support Project implementation. Although, the UCP-PPCR, created for the implementation of PPCR-Phase I, is now staffed, it is not fully consolidated and its capacity is still limited. Therefore, having in place acceptable arrangements to manage the activities envisaged under Components A and B (about U$10 million), and more importantly to undertake its coordination role; including management of funds flow to Cochabamba and Santa Cruz, will require significant effort and commitment from the MMAyA.

52. The Departmental Governments of Santa Cruz (through SEARPI) and Cochabamba (through SDC) do not have experience in the implementation of WB-financed projects. Basic FM arrangements have been discussed and agreed; but there is some work to do in order to complete the design of specific processes and procedures, mainly in their relation and interaction with UCP-PPCR and for the interaction between SEARPI and the Departmental Government of Santa Cruz, *per se*. In order to adequately support the orderly recording of Project transactions and provision of reliable and timely information for Project monitoring, a management information system will be implemented for UCP-PPCR, SDC and SEARPI. One of the major challenges for Project implementation is related to the coordination among the four entities involved. Even though some mechanisms have been agreed, which will be formalized through inter-institutional agreements, their effective operation will highly depend on political will to avoid conflicting situations that may affect Project implementation.

53. The Project's FM risk is high, mainly due to: i) weaknesses in the public sector to attract and maintain qualified staff with subsequent high staff rotation; ii) complex Project design that requires interaction of four implementing entities of different nature and of different levels of government; some with significant institutional challenges for putting in place required arrangements; iii) complex budgeting, funds flow and reporting arrangements for activities implemented by Departmental Governments (SEARPI and SDC). All, these aspects may considerably affect Project implementation.

54. To complete the design of the FM arrangements, the following actions need to be completed prior to declare the Project effective: i) operational manual reflecting agreed financial management arrangements; ii) installation of a tailored management information system, including validation of agreed financial reports. In addition, inter-institutional agreements will have to be entered into, between MMAyA and the departmental governments, providing for disbursements and reporting arrangements, at the latest 3 months after the LA is declared effective. Upon successful completion of those actions, proposed financial management arrangements can be considered acceptable to the Bank. However, close monitoring will continue to be essential during Project implementation.

D. Procurement

55. The procurement activities will be carried out by four institutions: (a) FPS, with the participation of departmental offices in Cochabamba and Santa Cruz; (b) the UCP-PPCR within

the MMAyA; (c) SDC of the Cochabamba Departmental Government, and (d) SEARPI of the Santa Cruz Departmental Government. The main findings of the procurement capacity assessment; including agreed upon mitigation measures are presented in Annex 3.

E. Social (including safeguards)

56. The social outcomes of the Project are expected to be positive. Specific benefits will be increased beneficiaries resilience to climate change and risks, increased participation of basin stakeholders in the management of the basin natural resources and a more equitable and transparent decision making process with regard to basin management.

57. The Indigenous Peoples operational policy (OP/BP 4.10) was triggered because about 40 per cent of the 1.7 million people living in the sub-basins of Mizque and Pirai identify themselves as indigenous. As the specific locations of the subprojects (component C) will only be known during Project implementation, an Indigenous Peoples Planning Framework (IPPF) has been prepared, accepted by the Bank, and disclosed both in country and on the Bank's website. It establishes a participation process to ensure that Indigenous Peoples have the opportunity to take part in sub-basin planning processes and to benefit from subprojects. The participation process will take place at three different levels: at the national level aimed at Sub-component A.2 (basin planning guidelines), at the departmental level aimed at Sub-component B.2 (formulation of river basin plans), and at the local level aimed at Component C (subprojects).

58. The Involuntary Resettlement operational policy (OP/BP 4.12) has also been triggered because some of the subprojects of Component C may require the use of land, but no physical displacement is expected due to the nature and very limited scope of these subprojects. No land acquisition will be financed with the Project proceeds. As the specific locations for these subprojects will only be known during Project implementation, a Resettlement Policy Framework (RPF) has been prepared, accepted by the Bank, and disclosed both in Country and on the Bank's website. The land that could be affected by the subprojects is mainly located in river banks and riverbeds as well as in areas for agriculture and forestry use. The RPF describes the processes and principles for consultation as well as for processing grievances and claims.

59. Both policies will have the same institutional arrangements depicted in Annex 3 in regard to responsibilities for design and implementation of safeguards instruments.

F. Environment (including Safeguards)

60. The Project is expected to have positive environmental outcomes through the strengthening of climate and water information system for better decision making and by supporting, basin-scale, integrated, river basin planning. The implementation of subprojects under component C may generate positive, neutral or low negative impacts on human populations or environmentally important areas, the latter being localized, reversible and easily mitigated. Accordingly, the Project is classified as Category B.

61. The following environmental safeguards have been triggered: Environmental Assessment (OP/BP/GP 4.01), Natural Habitats (OP/BP/GP 4.04), Physical Cultural Resources (OP/BP

4.11)[17], Forests (OP/BP/GP 4.36). Safety of Dams (OP/BP 4.37)[18], and Pest Management (OP/BP 4.09)[19]. Given that location and type of subprojects are still unknown, an Environmental Management Framework (EMF) has been prepared by the Borrower, consulted, reviewed by the Bank and disclosed before Project appraisal, both in country and on the Bank's website. The EMF provides for systematic supervision, technical assistance and strengthening of capacities of SDC, SEARPI and FPS to manage environmental safeguards as appropriate.

G. Other Safeguards Policies Triggered

62. The International Waterways Safeguard (O.P. 7.50) was triggered because the Project will finance irrigation and flood protection infrastructure subprojects in tributary basins of the Mamoré River, an international watercourse that flows from Bolivia to Brazil. However, it was concluded (Regional Vice President's decision dated May 30th 2013) that the exception[20] to the notification of the Riparian States applies because the proposed subprojects: (a) will not adversely change the quality or quantity of water flows to other riparians; (b) will not cause appreciable harm to other riparians; and (c) water use by the other riparians will not be adversely affected.

[17] This policy is triggered given that it is likely that physical cultural resources may be found particularly in the Andean region where the Mizque River sub-basin is located.

[18] This policy is triggered given that subprojects may include irrigation or flood control infrastructure, small dams, or water retention.

[19] This policy was triggered given that subprojects to be supported in the agriculture sector might involve an increased use of pesticides. The proposed EMF will consider appropriate measures and include resources for institutional strengthening, training, and safety equipment within a pest management plan to be prepared.

[20] The exception provided under paragraph 7(a) of OP 7.50.

Annex 1: Results Framework and Monitoring

Country: Bolivia

Project Name: Bolivia Climate Resilience - Integrated Basin Management (P129640)

Results Framework

Project Development Objectives

PDO Statement

The objective of the Project is to support the implementation of Borrower's Strategic Program for Climate Resilience by: (a) strengthening the Borrower's institutional capacity to define the new integrated river basin management approach to climate change adaptation; and (b) supporting its implementation in three pilot sub-basins in the Rio Grande basin.

These results are at	Project Level

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values									
		YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	End Target
Adoption by the Government of an Integrated River Basin Planning Methodology that considers CC scenarios (Yes/No)	No										Yes

Number of government institutions using the tools developed and knowledge created by the PPCR for CC adaptation (Number)	0.00										2.00
Availability and adequacy of timely and reliable hydro-meteorological data, forecasts and climate change related studies measured through the increasein target users satisfaction (Percentage)	0.00										30.00
Number of pilot sub-basins where an Integrated River basin management	0.00										2.00

system focused on improving climate resilience is operational (Number)											
Direct project beneficiaries (Number) - (Core)	0.00										3000.00
Female beneficiaries (Percentage - Sub-Type: Supplemental) - (Core)	0.00										50.00

Intermediate Results Indicators

		Cumulative Target Values									
Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	End Target
MPD, MMya, SEARPI and SDC demonstrate a better capacity to undertand and take into account climate	No										yes

change impacts, through a capacity assessment (Text)											
Installed capacities for the operation of the National Climate Change and Water Information System (Yes/No)	No										Yes
Number of protocols that establish and define the coordination and continuous interchange of hydro-meteorological information between the identified relevant institutions. (Number)	0.00										3.00
Website for	No										Yes

dissemination of centralized hydro-meteorological data is operational (Yes/No)											
Number of IRBM participation mechanisms established (Number)	0.00										2.00
Number of new or rehabilitated hydro-meteorological monitoring stations (Number)	0.00										50.00
Number of hydro-meteorological stations installed (Number - Sub-Type: Breakdown)	0.00										30.00
Number of hydro-meteorological	0.00										20.00

stations rehabilitated (Number - Sub-Type: Breakdown)											
Number of operating drought and flood early warning systems. (Number)	0.00										2.00
Number of integrated river basin management plans elaborated with the Integrated River Basin Planning methodology of MMAyA adopted (Number)	0.00										2.00
Area provided with irrigation and drainage services (ha) (Hectare(Ha)) - (Core)	0.00										3000.00

Area provided with irrigation and drainage services - New (ha) (Hectare(Ha) - Sub-Type: Breakdown) - (Core)	0.00										100.00
Area provided with irrigation and drainage services - Improved (ha) (Hectare(Ha) - Sub-Type: Breakdown) - (Core)	0.00										2900.00
Additional area protected from erosion (Ha) (Hectare(Ha))	0.00										20000.00
Length of waterways equipped with new or rehabilitated defensive flood protection infrastructure or	0.00										50.00

natural bank stabilization (Kilometers)											
Number of water basin management sub-projects within the pilot river basins financed by PPCR (Number)	0.00										40.00

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Adoption by the Government of an Integrated River Basin Planning Methodology that considers CC scenarios	Adoption of the guide for Integrated Water Basin Management developed by the Ministry of Environment with PPCR for the defined pilot river basins should be through an official communique such as a letter of instruction, decree, etc, by MMAyA through its Vice-Ministry of Water Resources and Irrigation (VMRHyR)	Annual review of progress towards objective	Official Publications	UCP-PPCR
Number of government institutions using the tools developed and knowledge created by the PPCR for CC adaptation	Number of government institutions using the tools developed and knowledge created by the PPCR for CC adaptation such as informationsystems, planning methodology and other tools developed by the PPCR. Relevant government institutions are : State Governments, Ministries, SENAMHI	Annual survey and audit	Programs and Plans elaborated with new knowledge and instruments	Survey to be done to SEARPI, SDC, Senamhi by UCP-PPCR
Availability and adequacy of timely and reliable hydro-meteorological data, forecasts and climate change related studies measured through the increasein target users	Indicator is % increase in the target users of hydro-met data satisfaction. Target users are academia, national and local disaster and risk management institutions, general public. Data and climate change studies should systematized in a Climate Change and Water Information System be	Annual survey and audit	Surveys of target users	UCP-PPCR

satisfaction	made available from an integrated and reliable climate and water information system, through a publicly-accessible website and a systematized inter-institutional exchanges of data. The % of satisfaction will be assessed through a qualitative method with focus groups that include the main target users.			
Number of pilot sub-basins where an Integrated River basin management system focused on improving climate resilience is operational	An IRBM system is defined as including a participatory River basin management Plan, an executing agency, and established participation of all water users through respective representative associations/institutions. The River Basin Management Plan is to be elaborated following the Ministry's methodology (Indicator 1) must be agreed upon in a participatory process, agencies and association mustbe staffed and sustainable, design and implementation of relevant sub-projects must be well under-way. Climate Resilience must be apillar of the system, and a criteria for the selection of sub-projects for Component C.	Annual review of progress and assessment of adopted Plans	SDC and SEARPI	UCP-PPCR
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental	Annual reporting and audit of data	SDC, SEARPI and FPS	UCP-PPCR

	Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.			
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what percentage of the beneficiaries are female.	No description provided.	No description provided.	No description provided.

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
MPD, MMya, SEARPI and SDC demonstrate a better capacity to undertand and take into account climate change impacts, through a capacity assessment	To strengthen the institutional capacities the PPCR will promote the developed instruments and guidelines and build up the necessary capacities for the use of the tools	Ex ante and ex-post assessment	Independent assessment	UCP-PPCR
Installed capacities for the operation of the National Climate Change and Water Information System	Expected Result: Installed capacities (technology and technical human capacities) for the compilation, systematization and interpretation of hydro-meteorological data. Data collection and the improvement and upgrading of the data base as well as the development of a web page need specific capacities	ex-ante, ex-post	Capacity Assessment	UCP and SENAMHI
Number of protocols that establish and define the	Expected Result: Continuous coordination and information exchange between	Annual review of	Number of protocols	UCP-PPCR

coordination and continuous interchange of hydro-meteorological information between the identified relevant institutions.	relevant institutions involved in the collection and compilation of hydro-meteorological data. Relevant Institutions are SENAMHI, SEARPI, SEMENA, AASANA, SNHN, Universiyies	progress toward objective		
Website for dissemination of centralized hydro-meteorological data is operational	Website should be accessible and reliable	Annual review of progress towards objective	SENAMHI	UCP-PPCR
Number of IRBM participation mechanisms established	It is expected that at least two mechanisms (formal agreement between existing institutions or creation of a new dedicated institution) be established, one in each pilot sub-basin, and that they be reasonably effective.	Baseline assessment, then annual review of progress towards objective	Regulations and formal agreements, minutes of meeting and decisions	UCP-PPCR
Number of new or rehabilitated hydro-meteorological monitoring stations	Expected Result: Network of functioning monitoring stations collecting high quality hydro-meteorological data and an institutional structure that guarantee the maintenance	Semi-annual audit of data	SENAMHI, SDC and SEARPI	UCP-PPCR
Number of hydro-meteorological stations installed	No description provided.	Semi-annual audit of data	SENAMHI, SDC and SEARPI	UCP-PPCR
Number of hydro-meteorological stations rehabilitated	No description provided.	Semi-annual audit of data	SENAMHI, SDC and SEARPI	UCP-PPCR

Number of operating drought and flood early warning systems.	Expected result: Running hydrological models using meteorological forecasts of SENAMHI, connected with communication channels and contingency plans	Annual review of progress	SDC and SEARPI	UCP-PPCR
Number of integrated river basin management plans elaborated with the Integrated River Basin Planning methodology of MMAyA adopted	Expected result: Concerted planning of integrated water basin management. Indicator: Concerted, approved and published Water Basin Management Plans for the PPCR pilot water basins	Annual review of progress then assessment of adopted Plans	SDC and SEARPI	UCP-PPCR
Area provided with irrigation and drainage services (ha)	This indicator measures the total area of land provided with irrigation and drainage services under the project, including in (i) the area provided with new irrigation and drainage services, and (ii) the area provided with improved irrigation and drainage services, expressed in hectare (ha).	Annual reporting and annual audit of data	FPS	UCP-PPCR
Area provided with irrigation and drainage services - New (ha)	No description provided.	No description provided.	No description provided.	No description provided.
Area provided with irrigation and drainage services - Improved (ha)	No description provided.	No description provided.	No description provided.	No description provided.
Additional area protected from erosion (Ha)	Expected result: Area resilient to eaolian and pluvial erosian	Annual audit of data	SDC, SEARPI and FPS	UCP-PPCR
Length of waterways equipped with new or	Natural bank stabilization are riverbanks fortified with natural means such as	Monthly reporting and	SEARPI and FPS	UCP-PPCR

rehabilitated defensive flood protection infrastructure or natural bank stabilization	forestation	annual audit of data		
Number of water basin management sub-projects within the pilot river basins financed by PPCR	Expected result: Water basin management sub-projects within the pilot water basins in execution	No description provided.	SEARPI and FPS	UCP-PPCR

PPCR Core Indicator	Project Indicator	Weight to build the PPCR Indicator
A1.3 Number of people supported by the PPCR to cope with the effects of climate change.	Direct project beneficiaries	100%
A2.1 Degree of integration of climate change in national, including sector planning	Number of sub-projects financed by the PPCR, carried out following the integrated basin planning methodology, which includes CC considerations	50%
	Adoption by the Government of an Integrated River Basin Planning Methodology that considers CC scenarios	40%
	Adoption by the Government of Guidelines for the integration of climate resilience in pre-investment studies in the irrigation sector	10%
B1 Extent to which vulnerable households, communities, businesses and public sector use improved PPCR-supported tools, instruments, strategies, activities to respond to CV and CC.	Number of government institutions using the tools developed by the PPCR for CC adaptation	40%
	Increase on the hydromet information users' satisfaction.	40%
	Website for dissemination of centralized hydro-meteorological data is operational	20%
B2 Evidence of strengthened government capacity and coordination mechanism to mainstream climate resilience	Number of data sharing protocols signed between institutions involved in the creation or compilation of hydro-meteorological data	20%
	MPDD, MMyA, SEARPI and SDC demonstrate a better capacity to understand and take into account climate change impacts, through a capacity assessment.	80%
B5 Quality of and extent to which climate responsive instruments/ investment models are developed and tested	Number of pilot sub-basins where an Integrated River Basin Management system focused on improving climate resilience is operational	50%
	Number of IRBM participation mechanisms established	15%
	Number of flood and drought early warning systems strengthened or established	15%
	Number of integrated river basin management plans adopted	20%

Annex 2: Detailed Project Description

BOLIVIA: BOLIVIA CLIMATE RESILIENCE - INTEGRATED BASIN MANAGEMENT

Project Development Objective

1. The Project Development Objective (PDO) is to support the implementation of the Borrower/Recipient's Strategic Program for Climate Resilience by: (a) strengthening the Borrower/Recipient's institutional capacity to define the new integrated river basin management approach to climate change adaptation; and (b) supporting its implementation in three pilot sub-basins in the Rio Grande river basin.

2. The achievement of the PDO will be measured through the following results/indicators:

(a) Adoption[21] by the Government[22] of an Integrated River Basin Planning Methodology that considers climate change scenarios;

(b) Number of government institutions using the tools developed and knowledge created by the PPCR for Climate Change Adaptation[23];

(c) Availability and adequacy of timely and reliable hydro-meteorological data, forecasts and climate change related studies, measured through the increase in target users[24] satisfaction;

(d) Number of pilot sub-basins where an Integrated River basin management system[25] focused on improving climate resilience[26] is operational[27];

(e) Direct Project Beneficiaries[28] (core indicator) and percentage of female beneficiaries (core indicator).

Project Approach

3. The proposed Project will support the implementation of Bolivia's strategy, as defined in its Strategic Program for Climate Resilience (Government of Bolivia, 2011), by supporting two types of actions:

[21] Through an official communique such as a letter of instruction, decree, etc.
[22] MMAyA through its vice-ministry of water resources and irrigation
[23] Through a survey and an audit
[24] Annual survey of academia, national and local disaster and risk management institutions and key general users.
[25] Including a participatory River Basin Management Plan, an executing agency, participation of all water users through a representative association/institution.
[26] As defined in national guidelines and/or the River Basin Management Plan.
[27] The River Basin management Plan is agreed upon in a participatory process, agencies and association are staffed and sustainable, design and implementation of relevant sub-projects is well under-way.
[28] From sub-projects only.

(a) Actions to strengthen the institutional capacity at the national level to facilitate/support climate resilient and participatory basin-scale water resources planning and management (Component A) and

(b) Actions to pilot the new approach in pilot sub-basins (components B and C).

Project Area

4. The pilot sub-basins have been chosen to span two of the main eco-regions in Bolivia (valleys and lowlands) and cover three main climate-induced challenges (water scarcity; droughts and floods). The three pilots are located in the Rio Grande river basin. The Rio Grande basin concentrates 30 percent of the national population in an area of about 100,000 km^2 (10 percent of the national territory) and includes two of the nation's largest cities (Santa Cruz and Cochabamba). It was chosen because of its importance for the country's food security and the high potential socio-economic costs generated by flooding and droughts. The first pilot is located in the largely rural Mizque sub-basin, in the mid altitude valleys. The sub-basin is home to 200,000 inhabitants for a total area of 10,400 km^2. In this sub-basin, water scarcity and droughts are becoming a constraint to agriculture and poverty alleviation. The second pilot is located in the mostly urban Rocha basin, as well in the mid altitude valleys, and where the city of Cochabamba is located. There, water scarcity and droughts are putting at risk the water supply for the city of Cochabamba. Increasing water quality problems are also becoming an issue. The third pilot is in the Pirai sub-basin, in the lowlands. It covers a total area of 13,400 km^2 and is home to 1.5 million inhabitants. In the Pirai sub-basin, increasing incidence and magnitude of flood events are affecting commercial, export oriented agriculture and the city of Santa Cruz.

Project Components

Component A. Strengthening National Capacity for Climate Change Adaptation (total cost US$5.25 million, CIF Loan US$4.75 million, CIF Grant US$0.5 million)

Sub-component A. 1. Creating of the National Climate and Water Information System (total cost US$2.38 million, CIF Loan US$2.38 million).

5. The Project will support the establishment of a national climate and water information system within the Ministry of Environment and Water through the provision of technical assistance, training, equipment and software. The **objective** of this sub-component is to increase access of decision makers, professionals and the general public to more reliable climate and water related information. It is conceived as the continuation of activities that were initiated under Phase 1 of the PPCR.

6. **Phase 1** is supporting the digitalization of the records of the country's main hydro-meteorological observation networks (observation networks of SENAMHI, AASANA and SEARPI), data quality checking to reduce errors and homogeneity and discordance tests to obtain good quality data and to divide the full area into homogeneous climatic regions. Phase 1 is also supporting the definition of climate change scenarios for the whole country and for the pilot river basins. New generation of general circulation models are being used to drive regional circulation models. Additional field work is carried out in order to refine model outputs at the priority sub-basins and specific small areas. Associated with these tasks technicians are being

trained in analysis and use of the generated scenarios. This hydro-meteorological database and scenarios is the main input for most of the subsequent activities to be implemented by the Project (Phase 2 of the PPCR), which are described in the following paragraphs.

7. **Phase 2** of the PPCR will further strengthen the National Climate and Water Information System by:

> (a) Developing the national climate and water information system. This will include integrating into one single information system climate and water related data and information currently dispersed among various institutions. The system will be composed at the central level of a central platform in the UCP-PPCR that will receive data and information from other sources, including SENAMHI, ASAANA and SEARPI, and make it available to decision makers, professionals and the general public through a user-friendly website. More specifically, the Project will support: (a) national climate and water information system design; (b) equipment and software for storage, processing and dissemination in the UCP-PPCR central platform; (c) equipment and software to strengthen SEARPI and SENAMHI nodes and (d) training of staff in the Ministry of Water and Environment, SENAMHI, SEARPI.
>
> (b) Analyzing the hydro-meteorological information generated under phase 1 by carrying out statistical analysis in order to obtain specific products (such as Intensity-Duration- Frequency (IDF) curves, extreme rainfall data and maps, discharge extreme and evapo-transpiration estimates) and estimating current and projected national water balances[29]. Information generated under this activity will be made available through the website. These analyses will require consultancy services and training of SENAMHI and SEARPI staff.

8. Formal agreements, including data sharing protocols, between the Ministry of Environment and Water, SENAMHI, AASANA and SEARPI have been signed.

Sub-component A. 2. Integrating Climate Change Adaptation into selected Planning and Investment Tools. (Total Cost US$0.15 million, CIF Loan US$0.15 million).

9. This sub-component aims at mainstreaming climate change adaptation considerations in selected national planning and public investment tools. Proposed activities include:

10. (a) The updating of planning methodologies and investment guidelines to include Climate Change considerations, including the development of a methodological guide for climate resilient, integrated, participatory, basin scale water resources management planning and the revision of the guidelines for irrigation projects pre-investment studies; (b) The training of Government officials from MPD, MMAyA, SEARPI and SDC, among others, on the use of these new tools and (c) Technical assistance to MPD for the inclusion of climate change consideration in the next 5-year National Development Plan. These activities will require consulting services, training of government officials on the use of these new tools and workshops

[29] It will provide rough estimates with the objective to identify main priorities for further detailed analysis

for carrying out the consultation process with indigenous people for developing the basin planning methodology as prescribed by the Indigenous Peoples Planning Framework.

Sub-component A.3. Support to the UCP-PPCR (Total cost US$2.72 million, CIF Loan US$2.22 million and CIF Grant US$0.5 million).

11. This sub-component will support managing and supervising the Project and auditing of Parts A, B and C2 of the Project. It will also finance the coordination, monitoring and evaluation of the overall PPCR program, and disseminate related findings and lessons learnt. This will involve putting in place an integrated M&E system for the projects implemented by different donors. This will require financing of consultant services (including audit), training, equipment and software as well as recurrent costs. The activities under this component will also build cooperation and agreements between the different international cooperation agencies involved in the climate change adaptation and water resources management, such as GIZ, JICA, IADB and COSUDE.

Component B. Strengthening Capacity for Adaptation to Climate Change in the Rio Grande River Basin. (Total Cost US$5.15 million, CIF Loan US$5.15 million)

12. The main objective of this Component is to strengthen the capacity for adaptation to climate change in three sub-basins of the Rio Grande basin: the sub-basins of Mizque and Rocha in the valleys and the sub-basin of the Piraí River in the lower part of the basin. An additional objective is to generate concrete experiences in the planning, design and implementation of integrated investments that are resilient to climate change effects, whose results and lessons learned will be the basis for setting or adjusting sector standards for public planning (i.e. River Basin Planning) and investments (e.g. large and small scale irrigation projects), for possible replication in other regions.

13. The Mizque, Rocha and Pirai sub-basins fall under the jurisdiction of two river basin agencies: The River Basin Service of the Cochabamba Department (*Servicio Departamental de Cuencas* – SDC) and SEARPI:

(a) The Pirai sub-basin falls under the purview of SEARPI;

(b) The Rocha sub-basin falls under the jurisdiction of SDC, as well as the larger part of the Mizque sub-basin.

(c) The largest part of the Mizque sub-basin falls under the jurisdiction of the SDC; the other part is in the Santa Cruz Department and falls under the jurisdiction of SEARPI;

14. In the **Pirai sub-basin**, recurrent flooding of urban and agriculture land is the foremost river basin management issue. Climate change may exacerbate the intensity and frequency of flood events. Adequate flood control along the river especially in the Santa Cruz area is a priority. This will require increasing the availability and reliability of real time hydro-

meteorological data, including real-time control of river levels, developing and calibrating simple, real-time hydraulic models covering the Pirai and the city of Santa Cruz and strengthening SEARPI's control center and early warning system. In the middle and upper region of the Pirai basin, the relevant issues are related to improvements on agricultural systems and land cover management.

15. In the **Mizque sub-basin** as well as the **Rocha sub-basin** increasing water scarcity and recurrent droughts are the main river basin management issues. Deteriorating water quality is also a priority issue in the Rocha sub-basin. Climate change may exacerbate overall water scarcity and increase the frequency and intensity of droughts by increasing evapotranspiration and altering precipitation patterns. Reduced water flows, may also exacerbates water quality issues in the Rocha sub-basin. In Mizque, the population relies heavily on agriculture and animal production for their livelihood. Therefore, one of the main technical solutions being promoted by the Government, the international cooperation and the beneficiaries is the development of irrigation and the construction/digging of small reservoirs/water tanks. As part of the planning process, specific studies would be carried out in order to evaluate the water budget along the river basin and estimate the overall and cumulative effects of such structural solutions. These studies would consider real data from at least the last five years, where available, and try to estimate water use and expected river discharges downstream with and without the "sub-projects" constructed upstream, especially around villages. They would also consider expected climate change scenarios.

Sub-component B.1. Strengthening Institutions and Planning for Integrated and Participatory, Water Resources Management and Climate Change Adaptation in the pilot sub-basins. (Total Cost US$2.80 million, CIF Loan US$2.80 million).

16. This sub-component will:

(a) strengthen the capacity of SDC and SEARPI by providing consulting services towards the identification of any gaps in the current institutional setup and the development of adequate operational models and action plans, as well as equipment, software and training;

(b) establish mechanisms and/or institutions that will facilitate basin stakeholders and decision makers' participation in river basin planning. In the Mizque sub-basin, participation mechanisms will build upon the *Mancomunidad del Cono* Sur (MMCS, by its acronym in Spanish) and a broader sub-basin Stakeholders Platform that were specifically designed for basin planning and

(c) will support the formulation of a participatory, integrated, climate resilient, river basin management plan in each of the selected sub-basins. This will include basin assessments, the development of scenario analysis, including a baseline scenario and climate-change impacted scenarios, the identification and selection of a set of structural and non structural measures, the financing, implementation and M&E plans. Formulation of the plans will require contracting consultant services, training and workshops. In the Piraí sub-basin, SEARPI will be the institution responsible for the planning process. In the Mizque and Rocha sub-basin, SDC will have this responsibility. In all cases, a sub-basin stakeholders platform will be set-up. It will be

the mechanism to ensure stakeholders' participation in the planning process and subsequent monitoring of the implementation of the plans. In the Mizque sub-basin, a stakeholders platform already exists in the Cochabamba part of the sub-basin.

Sub-component B.2. Strengthening the Water and Climate Information Systems in the pilot sub-basins. (Total Cost US$2.35 million, CIF Loan US$2.35 million).

17. In the Pirai sub-basin, improving the hydro-meteorological observation networks is critical, as actual river levels are measured manually, in few locations. Hydro-meteorological observation networks will be strengthened, along with the early warning. Long term modeling would provide a set of scenarios which would link observed levels upstream with expected flooded areas downstream, and should include climate changes as a variable. These models (1D in the river and 2 D in the city) must consider urban drainage and sediment transport. Critical areas need to be identified, in order to consider structural or non-structural actions to correct or protect them.

18. In the Mizque sub-basin, the hydro-meteorological observation network is significantly weak at the moment. A proper network should at least measure precipitation, river and reservoir and water table levels, in a sufficient number of places to be able to properly interpolate by kriging to the entire sub-basins.

19. This sub-component will finance the strengthening of sub-basin water and climate information systems in Mizque and Pirai to inform basin planning, management and investments. It will build on previous activities carried out during Phase 1 of the PPCR including the increased availability of historical hydro-meteorological data and climate change scenarios. The activities supported under the proposed Project include:

(a) The design of proposals to upgrade the sub-basins hydro-meteorological observation networks;

(b) The upgrading of the sub-basins hydro-meteorological observation networks;

(c) The creation/strengthening of Data Processing Centers in SEARPI and SENAMHI offices (in coordination with SDC) to treat and analyze hydro-meteorological information. This will also require the training of technicians to appropriately maintain the stations and treat the data.

(d) The strengthening of the Pirai sub-basin early warning system will require a consultancy which develops hydrological and hydraulic models developed as well as the training of SEARPI staff. Integration of all the models (real-time control, 1D and 2D) in an ad-hoc graphical platform will be included in the consultancy;

(e) A drought control and prevention system will be put in place in the Mizque sub-basin. This system will establish different levels of warning based on a combination of meteorological, hydrological and groundwater table sensors located in strategic locations in the catchment. This system will be available in SENAMHI and SDC offices, whose staff will be trained in using the system, and will be a helpful tool to decisions makers, who can decide about the best way of managing scarce resources.

The system would be largely based on the establishment of natural hazard risk scenarios (both for drought and flood) by running hydrological models with treated hydro-meteorological data, and the calculation of flood routing by the rivers and definition of flood risk areas for some hazard scenarios, to be compiled with socio-economic data such as the type of public and private infrastructure in the sub-basins as well as populated (urban and rural) and agricultural areas that would be affected. This activity will require consulting services and training

Component C. Design and Implementation of Subprojects that Improve Climate Resilience in the Pilot Sub-basins. (Total Cost US$61.0 million, CIF Loan US$26.1 million, CIF Grant US$ 9.0 million, Counterpart financing US$25.9 million)

20. This component will support the implementation of subprojects to enhance socioeconomic and natural systems' resilience to climate change in the pilot sub-basins.

21. **Two types of subprojects**: The Project will support the implementation of two types of subprojects:

(a) Infrastructure subprojects under sub-component C.1;

(b) Watershed Management subprojects, under sub-component C.2.

22. **Specific objective of Sub-component C2**. Sub-component C2 will be financed entirely through the CIF Grant. Its specific objective is to increase socio-economic and natural systems resilience to climate change in the pilot basins by improving natural resources management through the implementation of land and water conservation sub-projects.

23. **Eligibility Criteria**: To be eligible for financing, the subproject will have to comply with the following criteria:

(a) Infrastructure subprojects will be limited to the improvement and modernization of existing irrigation schemes and to flood protection. Watershed Management subprojects are mostly non-structural in nature and aimed primarily at controlling soil erosion and favoring soil water infiltration/retention. This includes subprojects such as reforestation/re-vegetation; restoration of gullies; improved farming practices.

(b) Comply with the co-financing rules (see below)

(c) Comply with the safeguards rules established for the Project (see environmental and social safeguards sections)

24. **Subproject identification:** Subprojects will be selected so that they support the implementation of the river basin plans developed as part of component B. However, prior to the approval of the plans, subprojects may also be implemented, but only when it can be demonstrated that they will increase resilience to climate change effects.

25. **Subproject financing:** The Project will finance :

(a) Pre-investment studies; including safeguards

(b) Works, goods and services for the implementation of the subprojects; and

(c) Technical assistance/training of the entities in charge of subprojects operation and maintenance.

26. Sub-project financing will be according to the following table:

Table 1: Subproject Financing

	Infrastructure subprojects	**Watershed Management subprojects**
Feasibility studies, including safeguards; subproject execution, supervision and training/technical assistance.	50% decentralized governments and/or direct beneficiaries[1]	30% decentralized governments and/or direct beneficiaries

27. **Subproject Cycles**. As mentioned above, depending on the type of subprojects, implementation modalities differ. In the case, of infrastructure subprojects, SEARPI and SDC are in charge of the identification, prioritizing and pre-investment phases of the subproject cycle, including safeguards; while FPS is responsible for the subsequent phases which include the implementation of works, supervision, technical assistance and monitoring and evaluation. In the case of watershed management subprojects, SEARPI and SDC are responsible for overall subproject implementation.

28. Details regarding subprojects eligibility criteria, mechanisms and responsibilities for subproject identification, prioritizing, pre-investment studies, execution, supervision and M&E are further detailed in the operation manual.

Annex 3: Implementation Arrangements

BOLIVIA CLIMATE RESILIENCE - INTEGRATED BASIN MANAGEMENT

Project Institutional and Implementation Arrangements

1. The PPCR Coordination Unit[30] (UCP-PPCR) of the Ministry of Environment and Water (MMAyA) will be responsible for overall Program and Project coordination, M&E of the overall PPCR program and knowledge generation and dissemination with regard to climate change adaptation approaches. It will also be responsible for overall fiduciary aspects (procurement and financial management) of components A and B as well as technical implementation of sub-components A.2 and A.3. The PPCR Coordination Unit is currently implementing Phase 1 of the PPCR. It has administrative and budgetary autonomy and reports directly to the Minister of Environment and Water.

2. The proposed designation of the UCP-PPCR as the Project overall implementing agency is justified by the following factors:

(a) It is already implementing Phase 1 of the PPCR which means that the implementation unit is already in place, it has experience in managing a World Bank financed project and it has fiduciary capacity on which to build upon.

(b) A number of activities that the Project will carry out are a continuation of PPCR Phase 1 activities.

3. The UCP-PPCR will rely on a network of four institutions that will have specific responsibilities for Project implementation: SENAMHI and FPS at the national level and SEARPI and SDC in the departments of Santa Cruz and Cochabamba respectively:

(a) The National Service of Meteorology and Hydrology (SENAMHI) is the main institution responsible for the collection and analysis of hydro-meteorological information. Established in 1968, it is now part of MMAyA as a decentralized body with autonomous technical and administrative management.

(b) FPS, under the MPD, was created in 2000, to administer resources from donors and the national budget to co-finance investment subprojects that contribute to the socio-economic development of municipalities, respond to the demand of civil society and are in line with national development policies and strategies. It has administrative and budgetary autonomy and has local offices at the departmental level, including Cochabamba and Santa Cruz.

(c) SEARPI was established in 1983 as a decentralized institution of the Departmental Corporation for Development of Santa Cruz de la Sierra (now *Gobierno Autónomo Departamental de Santa Cruz*). It is responsible for basin management in the department

[30] was created in April 2012 to be responsible for the overall implementation of the PPCR program, as required by the SPCR

of Santa Cruz, which includes among other activities, basin planning, the implementation of investment projects related to watershed conservation and flood control and the operation of a regional hydrometeorological observation network and flood alert system.

(d) The SDC was created in 2012 within the Departmental Government of Cochabamba, on the basis of the PROMIC, a program that was created in 1991 and supported by various Development Partners. It is a unit (not decentralized) responsible for basin planning and management in the Department of Cochabamba. SDC and SEARPI have long experience in implementing donors' projects.

4. Project implementation functions between those four institutions are assigned as follows:

(a) SENAMHI will be responsible for the technical implementation (preparation of ToRs and technical supervision of contracts) of sub-components A.1 and of activities in the department of Cochabamba under sub-component B.2, in coordination with SDC;

(b) FPS will be responsible for the implementation of subprojects under sub-component C.1 once feasibility studies, including final design are prepared by the Departamental Government of Cochabamba and Santa Cruz through SDC and SEARPI;

(c) SEARPI and SDC will be responsible for the technical implementation of sub-component B.1, as well as the preparation of feasibility studies under sub-component C.1, and the fiduciary and technical implementation of sub-component C.2. In addition, SEARPI will be responsible for the technical implementation of activities in the Pirai sub-basin under sub-component B.2.

5. A series of inter-institutional Agreements will be signed to specific the implementation responsibilities of the various institutions involved. They include:

(a) Subsidiary Agreements with FPS and MMAyA for the management of the loan funds;

(b) Inter-institutional Agreements between:

(i) MMAyA and the Departmental Government of Santa Cruz and between the Departmental Government of Santa Cruz and SEARPI for the implementation of components B and C in the Santa Cruz Department;

(ii) Santa Cruz Department and SEARPI for implementation of C2 under its territorial jurisdiction considering SEARPI’s decentralized status;

(iii)MMAyA and the Departmental Government of Cochabamba for the implementation of components B and C in the Cochabamba Department;

(iv)MMAyA and SENAMHI for the implementation of components A1 nationally and B2 in the department of Cochabamba;

6. **Participation of beneficiaries and stakeholders**. Project's implementation will be highly participative, especially with regard to the formulation of the river basin plans and the identification, financing and Operation and Maintenance (O&M) of the subprojects under component C. Those activities will also pay close attention to foster the participation of women and indigenous people.

7. More generally, the UCP-PPCR will consistently seek synergies with related projects supported by Development Partners in order to leverage existing tools and processes and in order to ensure that its activities complement those of the projects financed by these agencies.

Financial Management

8. A financial management capacity assessment was carried out to review the adequacy of the financial management arrangements under each of the proposed implementing entities: i) MMAyA, through UCP-PPCR (in charge of overall coordination); ii) FPS (in charge of infrastructure subprojects); iii) the Departmental Government of Santa Cruz through the decentralized entity SEARPI; and iv) the Departmental Government of Cochabamba through SDC. Both departmental governments are in charge of watershed subprojects. The purpose of this Annex is to spell out the main features of financial management arrangements, which in the case of FPS and UCP-PPCR are extensively based on the existing capacity and performance under other Bank-financed projects[31].

9. Overall, Project design is complex because of the number of entities involved (all of different nature and level of government) and of the nature of the activities to be financed (e.g. subprojects (infrastructure and watershed) at local level; which require interaction with municipal governments, communities and other beneficiaries. Although no transfer of funds to subproject beneficiaries is envisaged, adequate management of subprojects [and contracts under each subproject] requires sound operational arrangements, including for financial management, which need to be maintained throughout Project life; and which are not yet fully implemented in all involved entities. Out of the four implementing entities, only FPS (in charge of Component C1, about 60 percent of total Project cost) is a well-established entity that has put in place acceptable financial management arrangements; which, with minor adjustments to accommodate its interaction with the respective Departmental Governments, can adequately support Project implementation. Although, the UCP-PPCR, created for the implementation of PPCR– Phase 1, is now staffed; it is not fully consolidated and its capacity is still limited. This implies that having in place within the UCP-PPCR, acceptable arrangements to manage the activities envisaged under Components A and B (near U$10 million), and more importantly to undertake its coordination role; including management of funds flow under the SCF Grant to Cochabamba and Santa Cruz, will require significant effort and commitment from MMAyA.

10. As it relates to the Departmental Governments of Santa Cruz (through SEARPI) and Cochabamba (through SDC), they do not have experience in the implementation of WB-financed projects. Basic FM arrangements have been discussed and agreed upon; but there is some work

[31] FPS is currently implementing the infrastructure components of Cr. 4378-BO, PDCR; Cr. 4382-BO, Expanding Access to Rural Infrastructure; Cr. 4377-BO Emergency Recovery Project; and Cr. 4379-BO Lake Titikaka Local Development Project. MMAyA is currently responsible for the implementation of Phase I of PPCR.

to do in order to complete the design of specific processes and procedures, mainly in their relation and interaction with UCP-PPCR and for the interaction between SEARPI and the Departmental Government of Santa Cruz, *per se*. In order to adequately support the orderly recording of Project transactions and the provision of reliable and timely information for Project monitoring, a specific management information system is being implemented for UCP-PPCR, SDC and SEARPI. Implementation and later validation of said system will require close follow up from the Bank.

11. Project implementation at central level – FPS and UCP-PPCR - will benefit from the use of Government's integrated financial management system SIGMA and Treasury Single Account (CUT) for disbursement processing, which have worked well for other projects. However, those country tools are a bit different at subnational level (Santa Cruz and Cochabamba). One of the major challenges for Project implementation is related to the coordination among four involved entities. Even though some mechanisms have been agreed upon, which will be formalized through inter-institutional agreements, their effective operation will highly depend on political will to avoid conflicting situations.

12. The Project's FM risk is high, mainly due to: i) weaknesses in the public sector to attract and maintain qualified staff and high staff rotation; ii) complex Project design that requires interaction of four implementing entities of different nature and of different level of government; some with significant institutional challenges for putting in place required arrangements; iii) complex budgeting, funds flow and reporting arrangements for activities implemented by the Departmental Governments (SEARPI and SDC). All, those aspects may considerably affect Project implementation.

13. To complete the design of FM arrangements, the following actions need to be completed: prior to declare the Project effective i) an operational manual reflecting agreed financial management arrangements; ii) installation of a specific management information system, including validation of agreed financial reports. In addition, inter-institutional agreements will have to be entered into, between MMAyA and the Departmental governments providing for disbursements and reporting arrangements (including the agreement between the Department of Santa Cruz and SEARPI); at the latest 3 months of the Loan Agreement is declared effective. Upon successful completion of those actions, proposed financial management arrangements can be considered acceptable to the Bank. However, close monitoring will continue to be essential during Project implementation.

Summary of Financial Management Arrangements

Use of Country Public Financial Management (PFM) Systems

14. Similar to other projects in the Bolivia portfolio, budget of PPCR will be fully integrated and executed through the National Budget, in compliance with local regulations established by the Ministry of Economy and Public Finance (MEFP)[32], as well as instructions issued by the Viceministry of Public Investment and External Finance (VIPFE), as applicable. Accordingly,

[32] Law No. 2042, Supreme Decree No. 29881 dated January 7, 2009 – Regulations for Budgetary Modification.

Project transactions will be accounted for in accordance with Governmental Accounting Standards, and would use the Chart of Accounts established by the Accountant General's Office (*Direccion General de Contabilidad Fiscal*). Project execution under the responsibility of thje UCP-PPCR and FPS will benefit from the use of those well-functioning PFM elements including SIGMA and the Treasury Single Account (CUT); at departmental level, funds transferred by UCP-PPCR will be recorded and executed through SIGEP (Government's integrated system for subnational governments) and the C*uenta Unica de la Gobernacion -CUG (TSA for Subnational level)*. These basic arrangements will be supplemented where needed to make sure Project needs and risks are adequately addressed, mainly as it relates to internal controls, financial reporting and auditing.

15. Given the different nature of each of the involved entities, specific FM arrangements to be followed by each entity are presented in separate sections below.

MMAyA – UCP-PPCR

Organizational arrangements and staffing

16. The UCP-PPCR is a "*deconcentrated*" unit within the MMAyA, and as such has been granted administrative and financial autonomy. For the purpose of Project implementation, it has been agreed that a new Ministerial Resolution would be issued by MMA&A ratifying UCP's responsibility for Project implementation and coordination; and its dependence from the Minister's office. UCP FM team includes a FM Specialist, an accountant and an administrative assistant. Taking into account, the increased responsibilities and tasks under the Project, it has been agreed that this team would be strengthened **with an additional FM staff**. Functions and responsibilities for each of the FM functions are being reflected in the Operational Manual.

Programming and Budget

17. Project budget, for categories under the responsibility of UCP-PPCR, will be incorporated as part of the MMAyA budget under a specific "*Dirección Administrativa*" and therefore, its approval and any required budget modification will be subject to MMAyA internal approval rules. UCP-PPCR will be responsible for the recording of budget allocated to activities under Components A and B, which execution is under its direct responsibility; and budget required for Sub-component C2, which will be transferred on a periodic basis to the Departmental Governments of Santa Cruz and Cochabamba for the implementation of the Watershed subprojects. Specific guidelines will be included in the operational manual, for the preparation of an annual operating plan by Project component/subcomponent, and its respective local budget classification. Such annual budget would be consistently used for monitoring purposes.

Accounting – Information system – Financial reporting

18. Project execution for categories under the responsibility of UCP-PPCR will benefit from the use of SIGMA and the CUT (in US dollars and local currency) to process payments. From thereon, Project execution will be fully integrated in the central government accounting. Similar to other projects, it has been agreed that the use of SIGMA would be complemented with an information tool that allows contract monitoring, recording of Project transactions following a

more functional classification (component/subcomponent/activity), for further issuance of financial reports and statements of expenditures. The proposed tool would also be used by SEARPI and SDC for the recording of Project transactions under their responsibility. As the proposed system is installed, there will be need to review the system dynamics for the preparation of consolidated financial statements for the activities executed by UCP-PPCR and those executed by the Departmental Governments of Santa Cruz and Cochabamba out of the funds transferred by the UCP.

19. On a preliminary basis and similar to Phase I of PPCR; it has been discussed that interim financial reports would provide information on: i) sources and uses of funds, reconciling items (as needed), and cash balances, with expenditures classified by Project component/subcomponent; ii) a statement of investments reporting the current semester and the accumulated operations against ongoing plans, as well as footnotes explaining the important variance; and iii) statement of watershed subprojects executed by Santa Cruz and Cochabamba. Interim financial reports (IFRs) described above would be submitted on **a semi-annual basis**, within 45 days after the end of each calendar semester.

Processes and procedures

20. Overall, MMAyA has to comply with local requirements related to administrative and control systems (SAFCO Law), which are partially integrated into the operation of SIGMA, as they relate to budget preparation and execution. Internal processes and procedures followed by UCP-PPCR under Phase I have been adjusted and streamlined in order to provide for adequate segregation of duties, as well as clear roles and responsibilities for approval and authorization of payments, including the interaction with beneficiary entities (e.g. SENAHMI). Basic procedures and related internal controls for the approval and authorization of transfer of funds to Departmental Governments have also been discussed and agreed. Those revised procedures will be reflected in the Operational Manual; however their efficiency will have to be carefully reviewed and followed, mainly as it relates to the transfer of funds to Santa Cruz and Cochabamba.

Fondo Nacional de Inversión Productiva y Social – FPS (Component C.1.)

Organizational arrangements and staffing

21. Within FPS, the Finance Management Unit will undertake responsibility for financial management tasks through its existing units, Budget and Accounting, Treasury (*Gestión de Cobranzas*) and "*Gestión de Convenios*" at central level, and the Administrative and Finance teams in its "*deconcentrated*" Departmental Offices. Roles and responsibilities for Departmental and central offices as it relates to financial management are clearly defined. The FPS has managing external-financed projects and has experienced and qualified staff. However, in view of the increasing number of projects being implemented by the FPS, it was agreed that the Project would finance **a specific Project FM position (*Gestor de Convenios*)** within the Finance Management Unit; who would undertake responsibility for preparation of financial reports and Statements of Expenditure.

Programming and Budget

22. In addition to local requirements, FPS has developed, as part of its information management system-SAP, a specific programming module which allows programming of funds at subproject level; and which becomes the basis for estimating annual budget needs; that are later recorded in National Budget and SIGMA. Such tool, which includes external funds and counterpart funds provided by municipal governments and/or departmental governments, constitutes a reliable tool for monitoring Project financial execution. Annual budget would be used by FPS to monitor Project execution for its respective activities.

23. Taking into account that pre-feasibility studies for the so called "infrastructure subprojects" are under SEARPI's and SDC's responsibility, FPS operating plan will be based and highly depend on subprojects approved by departmental parties. Annual operating plan prepared by FPS, based on the pre-feasibility studies submitted by Santa Cruz and Cochabamba to FPS, will be finally approved by MMAyA.

Accounting, information system and financial reporting

24. As per FPS existing arrangements, the use of SIGMA and the CUT (in US dollars and local currency) to process payments is complemented with the use of an institutional management information system (SAP); which is used to process, record and control subproject execution throughout FPS Subproject cycle. The interface between SAP and SIGMA permits that payments approved in SAP be automatically accrued in SIGMA for subsequent payment through the TSA. Payments recorded in SAP are recorded by Project component/subcomponent; and based on those records, SAP allows the automated issuance of financial reports covering all sources of financing (Loan/grant and counterpart contributions); uses of funds by Project component or cost category as needed, and cash balances. Those reports will be also used for this Project. The transition to the new SAP version (iSAP) is currently planned for CY2014. As such process is completed; the Bank will follow up with FPS to make sure reports issued from the system fully comply with agreed content and formats.

25. Specific accounting practices for the recording of payments made directly by the Departmental Governments have also been discussed, so as to ensure these are timely and adequately presented in project financial reports.

Processes and procedures (including internal controls)

26. FPS has a comprehensive operational Manual that describes in detail all operational procedures, including financial management; as well as internal controls throughout subproject cycle. Overall, roles and responsibilities are clearly defined, providing for an adequate segregation of duties mainly as it relates to approving and authorizing roles throughout FPS subproject cycle, including payment concurrence performed by SEARPI/SDC as applicable. FPS operation is supported by the SAP which allows the automation of key controls that ensures compliance with critical steps, mainly in terms of payment authorization and approval, including in-situ verification physical and financial progress. FPS standard payment procedures are being adjusted for this Project to reflect the dynamics when payments to contractors, out of counterpart contributions, are directly made by involved Departmental Governments.

27. FPS internal control system is also reinforced by the monitoring and control function exercised by the Monitoring Unit and the Internal Audit Unit which have recently launched a joint approach, which aims to focus monitoring function on key risk areas.

Departmental Government of Santa Cruz - SEARPI

Organizational arrangements and staffing

28. As specified in section IV of the PAD, implementation of Component C2 will be under the responsibility of the Departmental Government of Santa Cruz through SEARPI. Although SEARPI was created as a decentralized unit of the former *Corporación Departmental de Desarrollo*; its budget is recorded as a separate "*Dirección Administrativa*" within the budget structure of the Departmental Government of Santa Cruz. For Project purposes, it has been agreed that the financial management function would be shared between the Departmental Government line administrative unit (*Secretaria de Economia y Hacienda*) and SEARPI Administrative Directorate. SEARPI is headed by a Technical Director; and it includes a full Administrative Directorate in charge of all financial management tasks, which includes: i) a Human Resources Unit, ii) a Budget and Accounting Unit; and iii) a Procurement unit. The Budgeting and Accounting Unit is staffed with four professionals responsible for budgeting, accounting and treasury functions. For Project purposes, it was agreed that this unit would be strengthened with **a Financial Management professional**, experienced in external financed projects and financed out of the Project proceeds. SEARPI will be responsible for Project programming and budgeting, procurement processes, contract management up to the approval of payments, preparation for Project financial reports and preparation of Statement of Expenditures; while the *Secretaria de Economia y Hacienda* will be responsible for budget recording and execution in SIGEP, and payment processing through the *Cuenta Unica Departmental* (CUG).

Programming and Budget

29. Following local requirements, funds transferred by the UCP-PPCR will be programmed and budgeted as part of the Departmental Government's investment plan and budget and, as such, will be subject to public investment requirements. Budget execution will be recorded and processed through SIGEP (integrated information system develops for subnational governments) which was recently integrated into the National Budget System. Based on those arrangements, SEARPI will be responsible for preparing the annual program, procurement plan and budget for the activities under its responsibility. Such planning documents will then be submitted to the UCP-PPCR for further review and approval, and later submitted to the Departmental Government's Planning Directorate and *Secretaria de Economia y Hacienda* for further approval and recording as part of the Departmental Government's budget. Approved budget will then be recorded in SIGEP for budget execution and monitoring.

30. The Operational Manual will include specific arrangements for the preparation of an annual operating plan by Project component/subcomponent, and by object of expenditure, including municipal and Departmental counterpart contributions. Such annual budget will be consistently used for monitoring purposes.

Accounting – Information system – Financial Reporting

31. Following the existing arrangements under the Departmental Government of Santa Cruz, Project transactions will be processed and accounted for in SIGEP; and payments made through electronic checks issued from the *Cuenta Unica de la Gobernacion* (CUG). The use of SIGEP will be complemented with the use of the management information system that will be implemented by UCP-PPCR, and which will allow contract monitoring, recording of Project transactions by Project component/subcomponent, recording and control of counterpart contributions, and recording, control and processing of subprojects for further issuance of financial reports and statements of expenditures.

32. Format and content of financial reports have been substantially defined, although this is still subject to the effective implementation and testing of the management information system. On a preliminary basis, it was decided that interim financial reports would include i) a statement of sources and uses of funds, including reconciling items (as needed) and cash balances, with expenditures classified by Project component/subcomponent; ii) a statement of uses of funds, reporting the current semester and the accumulated operations against ongoing plans and footnotes explaining the important variances; and iii) a subproject statement, detailing amount approved, paid, and outstanding balances. The reports would include loan and grant proceeds, local funds (municipal and Departmental). Those reports would be **prepared and submitted to UCP-PPCR on a quarterly basis** for monitoring purposes; and, on **a semiannual basis, they would be consolidated by UCP-PPCR to be submitted to the Bank**, no later than 45 days after the end of each calendar semester. The reports would be prepared in local currency and US dollars.

Processes and procedures (internal controls)

33. SEARPI has a detailed Manual of Functions which describes the responsibilities of each position; however, processes and procedures, including internal controls are not formally documented. For Project purposes, the Departmental Government and SEARPI are working on chart flows (*flujogramas*) describing basic procedures mainly as it relates to payment processing and approval, including clear identification of roles and responsibilities, approval and authorizing levels; and an adequate segregation of duties. Considering the nature of activities to be managed by SEARPI (subprojects with communities); it is expected that the proposed information system, will also allow the proper recording, control and monitoring of the amounts allocated and spent under each subproject.

Departmental Government of Cochabamba - *Servicio Departamental de Cuencas* - SDC

Organizational arrangements and staffing

34. As a deconcentrated unit of the Departmental Government of Cochabamba, SDC's budget is recorded as a specific *Direccion Administrativa* within the budget of the Departmental Government. Although some administrative functions have been deconcentrated to SDC; some financial management activities rely on the Departmental Government's administrative unit (mainly budget approval, including modifications and treasury functions). SDC has a complete Administrative and Finance unit, including budgeting and accounting areas that would undertake

overall responsibility for project financial management tasks. However, for project purposes, it has been agreed that this team would be strengthened with an FM professional to be financed out of project proceeds with terms of reference approved by the Bank.

Programming and Budget

35. Project budget will be incorporated as part of the Departmental Government of Cochabamba budget under a specific *"Dirección Administrativa"*. Therefore, budget formulation, and approval; including budget modifications are subject to the Departmental Government's regulations. As per existing arrangements, budget execution will be processed through SIGEP. SDC will be responsible for the preparation of the annual operating plan, procurement plan and budget proposal for the activities under its responsibility. Said documents will then be submitted to the UCP-PPCR for further review and approval, and then submitted to the Departmental Government's Planning and Finance Units in order to be included as part of the Departmental Government's budget proposal for further approval by the Departmental Assembly, and once approved, to be recorded in SIGEP.

Accounting – Information system – Financial Reporting

36. Since budget execution will be processed and recorded in SIGEP; Project transactions will be fully integrated and accounted for in the Departmental Government's accounting. However, for Project purposes, the use of SIGEP will be complemented with an information tool that allows contract monitoring, recording of Project transactions by Project component/subcomponent, for further issuance of financial reports and statements of expenditures.

37. Similar to SEARPI, format and content of financial reports have been substantially defined, although this is still subject to the effective implementation and testing of the management information system. On a preliminary basis, it was decided that interim financial reports would include i) a statement of sources and uses of funds, including reconciling items (as needed) and cash balances, with expenditures classified by Project component/subcomponent; ii) a statement of uses of funds, reporting the current semester and the accumulated operations against ongoing plans and footnotes explaining the important variances; and iii) a subproject statement, detailing amount approved, paid, and outstanding balances. The reports would include loan/grant proceeds, local funds (municipal and Departmental). Those reports would be prepared and **submitted to UCP-PPCR on a quarterly basis** for monitoring purposes; and, on a semiannual basis, they would be consolidated by UCP-PPCR to be submitted to the Bank, no later than 45 days after the end of each calendar semester. The reports would be prepared in local currency and US dollars.

Processes and procedures

38. SDC has a detailed Manual of Functions; which describes roles and responsibilities of different positions; however, there is no procedures manual that would allow assessing the adequacy of internal controls and of duties segregation. For Project purposes, SDC has worked on the design of chart flows (*flujogramas*) that describe basic processes and procedures, including internal controls, mainly as it relates to approval and authorization of payments

providing for sound segregation of duties. Those procedures will be complemented with the functionalities of the proposed information system to allow for the proper recording and control of Project transactions.

Audit arrangements

39. Based on the defined implementation arrangements, and associated responsibilities over funds flow arrangements, UCP-PPCR and FPS, will provide the Bank with **annual audit reports** on Project financial statements, and management letters as follows: i) UCP-PPCR for Components A and B, and C2; and ii) FPS for Component C1. In the case of UCP-PPCR, annual audited financial statements would cover funds transferred to Departmental Governments of Santa Cruz and Cochabamba for the implementation of activities under Subcomponent C.2. Said reports would be submitted to the Bank, within six months of the end of the Borrower's fiscal year[33] (December 31). The audits should be conducted by an independent audit firms acceptable to the Bank and under terms of reference approved by the Bank. Audit cost would be financed out of loan/grant proceeds and selection would follow standard Bank procedures. The scope of the audit would be defined by UCP-PPCR and FPS in agreement with the Bank based on the Project specific requirements and responding, as appropriate, to identified risks, including review of compliance with agreed processes and procedures; as well as a sample of subprojects. Audit requirements for each of the four implementing entities would include the following:

Audit type	**Due date**
Project financial statements	June 30
Special Opinions – SOE	June 30

40. Following existing practice, FPS would submit to the Bank a copy of the audited financial statements for the entity as a whole, for information purposes only. In accordance with WBG'Access to Information Policy, the audited annual financial statements will be made publicly available through MMAyA's and FPS' web-sites for its respective parts of the project.

Flow of Funds and Disbursement Arrangements

41. Following the general practice of the current portfolio, the following disbursement methods may be used to withdraw funds from the loan/grant: (a) reimbursement, (b) advance, and (c) direct payment. Under the advance method and to facilitate Project implementation, the following Designated Accounts (DAs) in US dollars would be opened and maintained, i) under the Loan: DA-A for UCP-PPCR for category 1 , and DA-B for FPS for cost category 2(a) and 2(b). ii) Under the Grant, DA-A for UCP-PPCR for categories 1, 2(a) and 2(b); all as described below. Funds deposited into the DA as advances would follow Bank's disbursement policies and procedures, to be described in the Financing Agreement and in the Disbursement Letter.

[33] In accordance with Bank's Guidelines, the first and last audits may cover a period of up to 18 months.

42. In keeping with current arrangements established by the Viceministry of Treasury and Public Loan for the operation, and use of a Single Treasury Account in US dollars (CUT-ME)[34], the DAs for UCP-PPCR and FPS would be opened and maintained as a separate *Libreta* within the CUT in US dollars. Following the existing treasury arrangements, funds from CUT-ME are periodically transferred to CUT in *Bolivianos* into a separate *Libreta* under the Project name, from which all payments will be processed through direct transfers into beneficiaries' bank accounts.

43. The ceiling for advances to be made into the DA will be defined in the disbursement letter. Documentation of eligible expenditures paid out of the DA is expected to be on a quarterly basis. The supporting documentation requirements to document Project expenditures (thresholds for the use of SOE), as well as the minimum value for direct payments and reimbursements is defined in the Disbursement Letter. Being consistent with other projects, FPS will use a customized SOE for subprojects, which are automatically issued from its information system SAP.

44. *Funds flow arrangements for Sub-component C.2*. Grant funds required for the implementation of watershed subprojects will be transferred by UCP-PPCR to the Departmental Governments of Santa Cruz and Cochabamba, on the basis of quarterly forecast prepared by the Departmental Governments and reviewed and approved and UCP-PPCR. Funds transferred will be deposited in a specific *Libreta* opened by each Departmental Government in its respective CUG, from which payments will be made through SIGEP. Expenditures made out of the *Libreta* CUG will be reported to UCP-PPCR on a monthly basis using Statement of Expenditure report issued from the proposed information system, accompanied by a bank reconciliation and list of contracts signed. Specific arrangements for request of disbursements and reporting are detailed in the Operational Manual, and Inter-institutional agreements.

45. *Municipal contributions*. Funds flow mechanisms for participating municipalities to provide their contributions under infrastructure subprojects under the responsibility of FPS will follow standard policies and mechanisms established in the FPS institutional Manual. Municipal contributions required under watershed subprojects, as applicable, will be required to be paid before contracts under each subproject is *signed*, and will be deposited in a specific *Libreta* CUG.

46. *Flow of funds arrangements for FPS operating costs - disbursement category 2 (b) under the Loan.* FPS's operating costs will be accounted for at the entity level but apportioned by subproject under the methodology that 7 percent of the cost of each subproject will be used as the indicator of operating costs associated with the carrying out of each subproject. The 7 percent has been determined by the FPS and reviewed and approved by the Bank.

47. Disbursements for FPS' operating costs will be done as follows: i) 2 percent when the subproject is approved in the CDAP: ii) 2 percent when the subproject contract has been signed; iii) 2.5 percent during subproject execution and on the basis of financial execution; and iv) 0.5 percent when the subproject has been completed and "institutionally closed".

[34] *Decreto Supremo* No. 29236 dated August 22, 2007

48. FPS will prepare customized SOE report detailing: i) the list of sub-projects approved; ii) the list of sub-projects with contracts signed; iii) the amounts disbursed for each subproject under execution for a defined period of time; iv) the list of sub-projects completed with institutional closing[35].

49. *Loan/Grant* proceeds will be disbursed against the following expenditure categories:

Category	**Amount of the Loan Allocated (expressed in USD)**	**Percentage of Expenditures to be Financed (inclusive of Taxes)**
(1) Goods, consultants' services (including audits), Training and Operating Costs, under Parts A and B of the Project; and audits under Part C.2 of the Project	9,900,000	100%
(2) (a) Works, goods, consultants' services (including audits), Training under Parts C.1 of the Project (b) FPS Operating Costs under Parts C.1 of the Project	22,900,000 3,200,000	100% of the amount disbursed by the Borrower under the Infrastructure Subprojects 100%
TOTAL AMOUNT	36,000,000	

Category	**Amount of the Grant Allocated (expressed in USD)**	**Percentage of Expenditures to be Financed (inclusive of Taxes)**
(1) Consultants' services and Operating Costs under Part A.3 (a) of the Project	500,000	100%
(2) (a) Works, goods, consultants' services, Training and Operating Costs for activities to be carried out by the *Gobierno Autónomo Departamental de Santa Cruz* under PartC. 2 of	3,830,000	100%

[35] Institutional closing includes the subproject closing as it relates to technical, legal, administrative, and financial aspects.

the Project (b) Works, goods, consultants' services, Training and Operating Costs for activities to be carried out by the *Gobierno Autónomo Departamental de Cochabamba* under Part C. 2 of the Project	5,170,000	100%
TOTAL AMOUNT	9,500,000	

Procurement

50. The procurement activities will be carried out by four institutions: (a) FPS, under the Ministry of Planning; (b) the UCP-PPCR within the MMAyA; (c) SDC, formerly PROMIC, within the Cochabamba Departmental Government, and (d) SEARPI established in 1983 as a decentralized institution of the Santa Cruz Departmental Government.

51. The main findings of the procurement capacity assessment carried out in May, June, and October 2012, as well as in February 2013 and September 2013 for the above mentioned institutions are summarized below:

(a) FPS will be responsible for the contracting process of subprojects under component C.1. (works, supervision, technical assistance to the entity in charge of O&M and monitoring and evaluation) through its Departmental offices in Cochabamba and Santa Cruz. This represents about 60 per cent of total Project cost. Its procurement team is working well and has an adequate knowledge of Bank's procedures and its information system is well-designed and provides the needed information related to monitoring, reporting and record keeping of all contracts (both at the national and local levels).

(b) UCP-PPCR was created in April 2012. It will be responsible for the procurement processes of components A and B (about 20 per cent of Project total cost). It is currently responsible for procurement of Phase 1 of the PPCR. It has two procurement specialists. Since mid-June 2012, the Ministry delegated to the unit the responsibility for initiating procurement processes and signing contracts which contributes to effective Project implementation and limits interferences in the procurement processes. Procurement risks are related to the recent creation of the Unit, the excessive bureaucracy in the Ministry and the possibility of accountability conflicts. Since September 2013, the UCP-PPCR has all the required staff for implementing the PPCR project (phase 2).

(c) SDC and SEARPI will be responsible for the procurement processes of component C2; which represent about 20 per cent of Project total cost. The procurement capacity of these institutions is weak as they do not have a dedicated procurement specialist with an adequate knowledge of Bank's procurement procedures and contract monitoring.

52. Accordingly, the procurement assessment report recommended the following mitigation measures: (a) preparation of a Project Operational Manual, describing, *inter alia*, procurement and contracting procedures, to be adopted prior to any contracting process starts; (b) inclusion of the Special Procurement Provisions in the Legal Agreement, (c) recruitment of a procurement specialist dedicated to the Project in SDC and SEARPI and (d) recruitment of a procurement specialist in each departmental office of the FPS for the pilot sub-basins (Cochabamba and Santa Cruz) and contract Technical specialists fully dedicated to the Project in each sub-basin (Mizque and Pirai); (e) training of fiduciary staff in procurement and contract administration; and (f) close monitoring by the Bank.

53. The overall Project risk for procurement is **High**, due to the combination of weak institutional and procurement capacities of most of the implementing institutions. Moreover, excessive bureaucracy and accountability conflicts may delay implementation. However, this assessment could be revised to substantial in light of the now effective decentralization of the UCP-PPCR. Additional risks include:

(a) Poor quality of works and delays in completion of works due to: (i) contractors winning at significantly lower prices than engineers' estimates and (ii) smaller contractors entering in joint-ventures with other smaller contractors that become sleeping partners and failing to deliver. Mitigating measures include:

(i) Beside the Quality Assurance standards provisioned in the Project, mandatory quality tests are defined in the bid documents as required.

(ii) All the interim bills of the contractor to be substantiated with test results confirming to Quality Assurance Plan (QAP) and Request for Inspection (RFI) form acceptance of the work signed by the Clients technical representative as required. In addition, independent outsourced inspectors is to be deputed to verify the quality of the work and compliance with QAP and their report has to be included in the Bills before payment

(iii) Frequent monitoring (at least 3 times a year for each contract) on quality assurance and physical progress by UCP-PPCR and Project Support Consultants based on annual monitoring plan

(iv) Third party independent technical audit to be carried out by the implementing institutions for the 20% of the contracts or works in the Component C; and also mandatory technical audits to be focused on poor performing contractors.

(v) Contract provisions liquidated damages to the contractor if physical progress is less than 15% within 1/3 of contract period or less than 40 % within 2/3 of the contract period or less than 75% within 100% of contract period due to poor delivery of the contractor or if physical progress is less than the 70% of the approved works schedule measured monthly. Contract shall be terminated if the work progress is less than 50% by the Work completion due date.

(vi) If the defects in quality of works are not remedied as per contract, the contractor is to be blacklisted including JV partners for three years.

(vii) If timely action is not taken as specified in two items above the project funding is to be suspended.

(viii) A database of contractors' performance monitoring to be developed and maintained, in collaboration with each entity and information exchange to be coordinated with the Bank

(ix) Material prices to be regularly updated and the updated prices to be used in cost estimates

(x) -Independent Technical Audits (ITA) to be used for conducting reviews of designs and cost estimates as required.

(b) Increased subproject costs due to estimates not based on market price; uneconomical design and invariable price variation near 15% of the contract price. Mitigating measures include:

(i) Updating material and labor rate based on prevailing market price twice a year of each fiscal year as required the OP.

(ii) Each implementing Unit with the support of external technical assistance to verify justification for any variation in price before executing the work

(iii) Implementing institutions to review the engineering design works to comply with standards and cost effectiveness endorsed by WB project team

54. Procurement for the proposed Project will be carried out in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans , IDA Credits and Grants by World Bank Borrowers", and "Guidelines: Selection and Employment of Consultants under IBRD Loans , IDA Credits and Grants by World Bank Borrowers", both dated January 2011, and the provisions stipulated in the Legal Agreement. For each contract to be financed by the Loan, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and timeframe, are agreed between the Recipient and the Bank in the Procurement Plan. The SEPA system will be used by each implementing institution and the Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. An Ad hoc Operational Manual for each implementing institution is recommended to be prepared, and will include further details on the procurement processes and arrangements.

55. **Procurement of Works**: Works procured under this project may include the construction of small rural infrastructure (irrigation, dykes, etc.). International Competitive Bidding (ICB) is not foreseen. Packages amounting to under US$3,000,000 in the aggregate may be procured using National Competitive Bidding (NCB) processes. Shopping (S) procedures may be used for contracts of up to US$250,000 as it is agreed in the Procurement Plan. Procurement of works for

NCB or S methods would be based on bidding documents satisfactory to the Bank. Force account modality may be used by SDC or SEARPI.

56. **Procurement of Goods and Non Consultant services:** Goods procured under this project would include, inter alia: Civil Construction goods necessary to carry out the project activities (local or native plants, organic fertilizer, wood, log, stone, sand, etc.); goods (equipment, furniture, materials, etc.) purchased for the project's implementation of each Component. Procurement of goods will be done using the Bank's standard bidding documents (SBD) for all international competitive bidding (ICB), and bidding documents satisfactory to the Bank for national competitive bidding (NCB) or Shopping (S) methods.

57. All procurement notices shall be advertised in the project's website, the Government's website (SICOES), and at least one local newspaper of wide national circulation. ICB notices and contract award information shall be advertised in the United Nations Development Business online (UNDB online), in accordance with provisions of paragraph 2.60 of the Procurement Guidelines and paragraph 7 of the Appendix 1 of the Guidelines.

58. **Selection of Consultants:** Consulting Firms services may be contracted for training and capacity building activities, technical studies, supervision, audits (financial, procurement and technical), evaluations, and support to communities. The procurement of consulting firms will be carried out using Bank's standard Request for Proposals (RFP). International firms should have the opportunity to participate in all solicitations above $200,000 USD. Shortlists of consultants for services estimated to cost less than US$200,000 equivalent per contract may be composed entirely of national consultants (firms registered or incorporated in the country) in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. Consulting Firms would be selected following Quality and Cost-based Selection (QCBS) for all contracts in the estimated amount of more than US$100,000.

59. **Selection of Individual Consultant Services**: Individual consultant services will be contracted mostly for Project Management and for technical advice, mainly in the substantive matters of the project, but also for design, supervision and technical assistance, technical or procurement audits. The Terms of Reference, job descriptions, minimum qualifications, terms of employment, selection procedures, and the extent of Bank review of these procedures to contract "Consultores de línea" and documents shall be described in the Operational Manual and the contract shall be included in the Procurement Plan.

60. A project website, a government website (SICOES), and a national newspaper shall be used to advertise expressions of interest as the basis for developing short lists of consulting firms and individual consultants, and to publish information on awarded contracts in accordance with the provisions of paragraph 2.31 of the Consultants' Guidelines and as mandated by local legislation. Contracts expected to cost more than $200,000 USD shall be advertised in UNDB online.

61. **Training:** Training would include expenditures (other than those for consultants' services) incurred by the Borrower to finance logistics for workshops, meetings, and seminars, and reasonable transportation costs and per diem of trainees and trainers (if applicable), training registration fees, and rental of training facilities and equipment. The procurement would be done

using NCB and Shopping procedures as discussed below. Direct Contracting (paragraph 3.7 of the Procurement Guidelines) may be used for the payment of registration fees, up to a ceiling amount to be established annually in the Procurement Plan.

62. **Force Account:** in subcomponent C 2, the Project will finance subprojects submitted by beneficiary communities and approved by the SDC or SEARPI. Procurement of goods, works, and technical assistance, financed through the subprojects, will be carried out directly by SDC or SEARPI using, in most cases, NCB or shopping procedures for goods and works. Subprojects generally envisage a large number of small value contracts for goods and both non-consulting and consulting services, and a large number of small works scattered in remote areas. Commonly used procurement procedures include NCB, Shopping, local competitive bidding inviting prospective bidders for goods and works located in and around the local community, direct contracting for small value goods, works, and non-consulting services, and the use of community labor and resources. The Project Operational Manual will describe all procurement arrangements, methods, and procedures including the roles, the responsibilities, and simplified steps for all applicable methods of procurement, provisions for any technical or other assistance required; simplified forms of contracts to be used, roles and oversight functions of the implementing agency, etc.

63. **Operating Costs:** The Project will finance incremental operational costs of implementing institutions and the operational cost of the UCP-PPCR, including: salaries of support staff, travel cost and subsistence for missions of project staff (excluding civil servants); establishment and operation of the monitoring and supervision, ; operation and maintenance of project offices, including utilities and telecommunication; acquisition, operation and maintenance of office and field equipment, including vehicles, needed for project activities. These operating costs will be administered in accordance with Procurement Guidelines, as appropriate.

64. **Operational Manual (OM).** The OM, for each entity, would include all procedures, rules, and standards for the implementation of all aspects of the Project including but not limited to: institutional arrangements; operation of the project coordination team; project planning, monitoring & evaluation; social and environmental review of the project, reporting, communication, human resources; procurement; administrative and financial management; procedure for amending the OM[36].

65. **Procurement Plan.** A Project procurement plan was prepared and approved by the Bank prior to negotiations. The SEPA system for the Procurement Plan will be used by each entity and it will also be available in the project's database and in the Bank's external website. The Procurement Plan will be updated semi-annually or as required to reflect the actual Project implementation needs and improvements in institutional capacity. Subprojects will be included in the Procurement Plan bi-annually. The Procurement Plan shall set forth those contracts which shall be subject to the Association's Prior Review. All other contracts shall be subject to Post Review by the Association, except for those contracts terminated by the recipient's agency for which the Borrower shall seek the Association's no objection prior to the proposed termination.

[36] Amendments to the OM would need to be acceptable to the Bank.

66. **Frequency of Procurement Supervision.** In addition to the prior review supervision to be carried out by the Bank, the capacity assessment of *MMAyA, FPS, SDC and SEARPI* has recommended semi-annual supervision missions, including field visits, and post-reviews of procurement actions**.** Twenty percent of all contracts will by post-reviewed by the Bank. Based on the finding of the Post Procurement Reviews and the proposed ratings, the Bank may determine the revision of the prior review requirements.

67. **Procurement Revisions.** Each one of the implementing entities will provide the Bank with annual procurement revisions, for their respective components, within six months of the end of the Borrower's fiscal year (December 31). The revision should be conducted by an independent firm or individual acceptable to the Bank and under terms of reference approved by the Bank. Revision cost would be financed out of Loan proceeds and selection would follow standard Bank procedures. The scope of the Revision would be defined by each implementing entity in agreement with the Bank based on project specific requirements and responding, as appropriate to identified risks, including review of compliance with agreed processes and procedures; as well as a sample of subprojects. Revision requirements for each of the four implementing entities would be submitted for the Bank's review not later than April 30 of each year.

68. Goods, Works, and Non Consulting Services: ICB contracts for **works** estimated to cost above US$3.0 million and ICB contracts for **goods** estimated to cost above US$250,000 per contract and all direct contracting will be subject to prior review by the Bank. Direct Contracting regardless of the amount, will be subject to prior review by the Bank.

69. Consultancy services estimated to cost above US$100,000 per contract and all single source selection of consultants (firms) will be subject to prior review by the Bank. Individual consultants services to cost US$50,000 or above per contract and all single source selections (regardless of the amount) will be subject to prior review by the Bank., Thresholds for procurement methods and prior review are as follows:

Expenditure Category	Contract Value (Threshold) (US$000)	Procurement Method	Bank Prior Review
1. Works	>3,000	ICB	All
	3,000>250	NCB	First two each year of each implementing Agency.
	<250	Shopping (Price Comparison)	First two each year of each implementing Agency.
	Regardless of value	DC.	All.
2. Goods	>250	ICB	All
	250>50	NCB	First two each year of each implementing Agency.
	<50	Shopping	First two each year of each implementing Agency.
	Regardless of value	DC.	All. (excluding all those activities set forth in the Procurement Plan)

Expenditure Category	Contract Value (Threshold) (US$000)	Procurement Method	Bank Prior Review
3. Consultant Services	>100	QCBS	All
	<100	QCBS, QBS, CQ, FBS, LCS (as per Procurement Plan)	All TOR. Selection Process reviewed twice yearly (Ex Post).
	Regardless of value	SSS	All, excluding all those activities set forth in the Procurement Plan)
4. Individual Consultants	>50	IC	All
	<50	IC	All TOR. Selection Process reviewed twice yearly (Ex Post). All contracts awarded under SSS, and key personnel
	Regardless of value	SSS	All excluding all those activities set forth in the Procurement Plan)
Total value of contracts subject to prior review: US$ To be determined			
Notes: ICB: International Competitive Bidding; NCB: National Competitive Bidding; DC: Direct contracting; QCBS: Quality-Cost Based Selection; QBS: Quality Based Selection; FBS: Fixed Budget Selection: LCS: Least-Cost Selection; CQS: Consultant Qualification Based Selection; SSS: Sole Source Selection			

Environment Safeguards

70. This Project is classified as Category B, which is the appropriate classification for projects whose potential adverse environmental impacts on human populations or environmentally important areas are site-specific, reversible, and can be readily mitigated. The following environmental safeguards have been triggered: Environmental Assessment (OP/BP/GP 4.01), Natural Habitats (OP/BP/GP 4.04), Physical Cultural Resources (OP/BP 4.11)[37], Forests (OP/BP/GP 4.36). Safety of Dams (OP/BP 4.37)[38], and Pest Management (OP/BP 4.09)[39]. Given that location and type of subprojects are still unknown, an Environmental Management Framework (EMF) was prepared by the Borrower. It was consulted, accepted by the Bank and disclosed before Project appraisal both in country and on the Bank's website. The EMF provides for systematic supervision, technical assistance and strengthening of capacities to manage environmental safeguards as appropriate.

71. A characterization of the Piraí, Mizque and Rocha sub-basins is presented in the EMF. According to the EMF, environmental risks that might be associated with subprojects implementation are shown in the following table:

[37] This policy is triggered given that it is likely that physical cultural resources may be found particularly in the Andean region where the Mizque River sub-basin is located.

[38] This policy is triggered given that subprojects may include irrigation or flood control infrastructure, small dams, or water retention.

[39] This policy was triggered given that subprojects to be supported in the agriculture sector might involve an increased use of pesticides. The proposed EMF will consider appropriate measures and include resources for institutional strengthening, training, and safety equipment within a pest management plan to be prepared.

Typology of environmentally related risks by type of subprojects

Project Component	Subproject Type	Risk
C1. Infrastructure Subprojects	Improvement and rehabilitation of existing irrigation systems	• Water contamination due to increased use of pesticides and fertilizers • Increased water scarcity downstream of the river basin • Damage to physical cultural resources • Workers and beneficiaries safety issues • Negative environmental impacts associated with solid and liquid wastes generated in ancillary facilities and machinery camps during subproject construction
	Flood protection structures (artificial levees; improved natural levees and dykes)	• Increased downstream flood peaks and damages • Localized changes in hydrological patterns with some impacts on wildlife habitats, including forests. • Workers and beneficiaries safety issues • Negative environmental impacts associated solid and liquid wastes generated in ancillary facilities and machinery camps.
Component C2. Watershed subprojects	Soil stabilization and moisture recharge subprojects (revegetalization; soil and water conservation agricultural practices; physical structures to prevent erosion)	• Some changes in critical natural habitats, including forests. • Damage to physical cultural resources

72. The EMF describes the responsibilities and tasks of the implementing agencies to comply with environmental safeguards during subprojects identification, preparation, execution and supervision. Those include the categorization of subprojects based on its potential environmental risks (which depends on the type of subprojects and the environment sensitivity) and the determination of the type of environmental study to be carried out as part of the subprojects feasibility studies.

73. It also includes a plan to strengthen the implementing agencies' capacity to implement the EMF. This concerns the UCP, FPS, SEARPI and SDC who will hire dedicated environmental specialists to ensure that the environmental procedures defines in the EMF will be followed. The Plan also includes an estimation of the costs of the environmental studies to be carried out as well as some contingency funds to finance preservation and rescue of physical cultural resources that might be found during subprojects implementation. The cost of this Environmental Management Strengthening Plan is estimated at US$ 640,000 and was included in the Project costs.

International Waterways (OP/BP 7.50)

74. The International Waterways Safeguard (O.P. 7.50) was triggered because the Project will finance irrigation and flood protection infrastructure subprojects in tributary basins of the Mamoré River, an international watercourse that flows from Bolivia to Brazil. However, it was concluded (LCR Region Vice President's decision dated May 30th 2013) that the exception[40] to the notification of the Riparian States applies because the proposed subprojects: (a) will not adversely change the quality or quantity of water flows to other riparians; (b) will not cause appreciable harm to other riparians; and (c) water use by the other riparians will not be adversely affected.

Social safeguards

75. The social outcomes of the Project are expected to be positive. Specific benefits will be increased beneficiaries resilience to climate change and risks, increased participation of basin stakeholders in the management of the basin natural resources and a more equitable and transparent decision making process with regard to basin management.

76. An important number of beneficiaries are expected to be women and poor farmers as well as some Indigenous communities because they are very much involved in agriculture activities, which are particularly vulnerable to increasing water scarcity, droughts and flood in the pilot sub-basins. They are also likely to be located in areas prone to flooding and drought events, and their resilience to those events is generally lower than for other segments of the population. Yet these groups have limited representation in decision-making. Particular attention will be paid to ensure the participation of Indigenous Peoples and women in basin planning and subprojects benefits.

77. Because, according to the national census (2001), 40 per cent of the 1.7 million people living in the sub-basins of Mizque and Pirai identify themselves as indigenous, the Indigenous Peoples operational policy (OP/BP 4.10) has been triggered. An Indigenous Peoples Planning Framework (IPPF) was prepared because the location of the subprojects will only be known during Project implementation. It was disclosed before Project appraisal, both in country and on the Bank's website. The IPPF establishes a participation process to ensure that Indigenous Peoples have the opportunity to take part in Project planning processes and have access to subprojects benefits. The participation processes will take place at three different levels: at the national level aimed at Sub-component A.2 (basin planning guidelines), at the Departmental level aimed at Sub-component B.2 (formulation of river basin plans), and at the local level aimed at Component C (subprojects).

78. According to the IPPF, in the Mizque basin there is only one TCO compounded by 43 dispersed small communities totalizing around 16,000 people, organized in five territorial units or *subcentrales*: 1) Laguna Grande, 2) Molinero, 3) Salvia, 4) Santiago, and 5) Raqaypampa. There are immigrants indigenous (Quechua) people (colonists) in the Pirai basin and in the southern cone of the Cochabamba department, but they are not organized as communities or

[40] The exception provided under paragraph 7(a) of OP 7.50.

other social grouping; they live dispersed in the basin and maintain relationships with the mestizo population known as *camba*, a gentile by which the people in the Department are known, that originated in colonial times. There are also Quechua speakers in the Rocha basin, located close to the metropolitan area of the city of Cochabamba, but they do not constitute communities or other social arrangements.

79. The Involuntary Resettlement operational policy (OP/BP 4.12) was also triggered because some of the subprojects of Component C may require the use of land, but no physical displacement is expected due to the nature and very limited scope of these subprojects. Since the specific locations for these subprojects will only be known during Project implementation as a result of a demand-driven process, a Resettlement Policy Framework (RPF) was prepared by the borrower. It was disclosed both in country and on the Bank's website before Project appraisal.

80. Both frameworks, the RPF as well as the IPPF define the responsibilities assigned to each agency in the preparation, implementation, supervision and evaluation of the policy instruments (Resettlement Action Plan-RAP and Indigenous People Plan - IPP) that might be needed to comply with OP 4.12 and OP 4.10, respectively.

81. SDC and SEARPI will be responsible to prepare and implement the RAPs and IPPs whenever needed in their jurisdiction. While FPS will be responsible to review and approve RAPs and IPPs, as well as supervise and monitor their implementation and subsequently carry out an evaluation.

82. FPS has a team of social experts that are allocated to each department in Bolivia, while SDC and SEARPI have none. During project preparation both institutions have agreed to improve their capacity for social safeguard compliance and will hire and train the necessary personal to this effect.

Monitoring & Evaluation

83. The UCP-PPCR will have overall responsibility for Project monitoring and evaluation (M&E). MPD will also have an important role, especially in the dissemination of lessons learned and the promotion of the planning and investment guidelines developed by the Project for their use nationally. As the main counterpart of the World Bank in Bolivia, it also has a special role in overseeing Project implementation and ensuring it meets its objectives. This is done in particular through the review of the semi-annual project progress report; the participation in the World Bank quarterly portfolio review for Bolivia and the signing of the trimestral World Bank mission Aide-Memoire. Under sub-component A.3, an estimate of US$500.000 is earmarked for M&E. This amount includes data collection, equipment, software, training, and operating costs.

84. The UCP-PPCR will submit semi-annual progress reports to the Bank covering the status of implementation, outputs, outcomes, financial statements, procurement plans, environmental and social issues and actions taken to ensure satisfactory Project implementation. Baseline studies, a mid-term review and a final evaluation will be conducted.

85. The results framework was developed considering indicators to monitor the overall performance of the Project and PPCR core indicators. Annex 1B Presents the Core indicators and how they relate to the project indicators

Role of Partners (if applicable)

86. Project preparation was carried out in close cooperation with IADB and with the Bolivia Group of Development Partners for climate change adaptation and water resources management[41]. This close coordination is expected to continue during Project implementation, especially with IADB that is financing the first pilot of the PPCR and with COSUDE, GIZ and JICA who will finance complementary activities in the Rio Grande River Basin. More specifically, COSUDE will provide: (a) support to basin planning (b) capacity building of SDC in climate change adaptation and climatic risk management and (c) capacity building of municipalities in early warning systems. GIZ support will include: technical support for the development and implementation of climate change adaptation tools and methodologies, particularly in the agricultural sector building on its experience from the Sustainable Agricultural Development Program (PROAGRO) that is under implementation since 2011. JICA will finance complementary activities in the Rio Rocha basin through a technical cooperation to start in January 2014 and last 2-3 years. Activities to be supported will be defined in the coming months. More generally, the UCP-PPCR will consistently seek synergies with the projects supported by these Development Partners in order to leverage existing tools and processes and in order to ensure that its activities complement those of the projects financed by these agencies. The UCP-PPCR will also consistently seek synergies with the projects supported by these Development Partners in order to leverage existing tools and processes and in order to ensure that its activities complement those of the projects financed by these agencies.

[41] German Technical cooperation agency (GIZ), Swiss Cooperation Agency (COSUDE), JICA, United Kingdon, UN Agencies (UNDP, WFP), Belgium Int. Cooperation, Italian Int. Cooperation Agency, Denmark Int. Cooperation Agency.

Annex 4: Operational Risk Assessment Framework (ORAF)

Bolivia: Climate Resilience - Integrated Basin Management (P129640)

<table>
<tr><th colspan="7">Project Stakeholder Risks</th></tr>
<tr><td>Stakeholder Risk</td><td colspan="2">Rating</td><td colspan="4">Moderate</td></tr>
<tr><td rowspan="4">Risk Description:

Donor relations:
(b)Many donors are supporting the climate change adaptation and the river basin management agendas, some of them for many years. Many have demonstrated strong interest in the PPCR and IADB, COSUDE, EU, GIZ and JICA will also support its implementation. Strong coordination between donors is necessary during project preparation and implementation to avoid financing the same activity twice or not following the same approach.

Direct/Indirect Beneficiaries and civil society views:
(c) The formulation of the SPCR, that led to the identification of the PPCR project, and the social studies part of Project preparation, included consultation processes with stakeholders (potential beneficiaries of the investment program and civil society). Those consultations revealed strong interest from the stakeholders in an investment program that would address climate change risks. They did not reveal any potential conflict around project design. During project implementation, conflicts could potentially arise from the basin planning process or the implementation of the subprojects. The Project is indeed structurally defined to reinforce institutional mechanisms and infrastructure to better manage water and associated natural resources</td><td colspan="6">Risk Management:

(b) The Bank has been maintaining close coordination with the donors involved in climate change and water and will continue to do so during project implementation through the following mechanisms: (i) the Bank is part of the donors group on climate change and water and participate regularly to its monthly meetings; (ii) during each PPCR mission, the Bank has organized a donor workshop to share progress on the PPCR preparation; get feedback on its design and find ways to coordinate and cooperate (This will continue during project implementation); (iii) IADB, COSUDE, GIZ, EU and JICA will support the implementation of the PPCR in the Rio Grande through parallel operations and (iv) it was agreed with IADB, COSUDE, EU and GIZ to have a joint mission at least once a year.</td></tr>
<tr><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Bank</td><td>In Progress</td><td>Both</td><td>☐</td><td></td><td></td></tr>
<tr><td colspan="6">Risk Management:

(c) The project will follow a participatory approach to river basin planning and to the identification and financing of the subprojects that will be implemented. In addition, both the plan and the subprojects will be subjected to social and environmental assessments that should limit potential negative impacts on the environment and third parties. Safeguards and monitoring mechanisms are included to ensure that the impact of activities is thoroughly assessed, with a focus on upstream/downstream users and potential discrimination (indigenous populations, women, etc.), and that mitigation measures are identified and implemented.</td></tr>
<tr><td>Resp:</td><td>Status:</td><td>Stage:</td><td>Recurrent:</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Client</td><td>In Progress</td><td>Both</td><td>☐</td><td></td><td></td></tr>
</table>

among various competing users, including dealing with impacts from upstream users or on downstream users. Bank financed activities could be perceived as biased towards one category of users or detrimental to another.						

Implementing Agency (IA) Risks (including Fiduciary Risks)						
Capacity	**Rating**	**Substantial**				
Risk Description: (a) The Implementing Agency could suffer from the general lack of institutional capacity in public entities with a structurally low salary policy that hinders the capacity to adopt proper processes and systems, and attract and retain qualified project staff, in particular for fiduciary responsibilities (financial management, procurement, etc.). (b) UCP-PPCR, SDC and SEARPI staff have limited knowledge and experience of the procurement regulations and procedures governing Bank-financed projects. In addition, they will have to deal with a stringent bureaucracy with multiple accountabilities towards competing administrations, which may generate significant implementation delays.	**Risk Management:** (a) The position of the UCP-PPCR under the Minister should allow it to set-up salaries/fees for staff and consultants within the upper limits of the salary scale for the Ministry and therefore attract relatively good staff and consultants.This will be a positive factor in reducing the risks of staff turnover and ensuring that the staff will be nominated for its capacity to do the job. Furthermore, the hiring, evaluation and management of key Project staff will be consistently reviewed by the Bank. SEARPI, SDC and FPS have competent staff that is apparently not too affected by staff turn-over.					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	In Progress	Both	☐		
	Risk Management: (b) Capacity building in fiduciary management will be an essential part of project activities. The hiring of financial and procurement specialists as well as regular and on the job training provided by World Bank staff will be an early priority. 60% of Project investments (in value) will be carried out by FPS that has good capacity in fiduciary aspects and project implementation in general. All agencies involved will have project dedicated procurement, FM, social and environmental staff (as well as technical).					
	Resp:	**Status:**	**Stage:**	**Recurrent:**	**Due Date:**	**Frequency:**
	Client	In Progress	Both	☐		
Governance	**Rating**	**Moderate**				
Risk Description: Ownership, commitment and decision-making: (a) There is a predominance of ad-hoc, political decisions over informed technical decisions and difficult coordination among ministries and, ministries and decentralized agencies. In this context, the new	**Risk Management:** (a) The UCP-PPCR will be fully dedicated to the project (responsible for overall project coordination, fiduciary related topics and overall M&E), which eliminates the risk of lack of commitment. Furthermore, reporting directly to the Minister of Environment and Water should give it significant political support. Finally, subsidiary agreement and inter-institutional agreements will specify the responsibility of each implementing					

coordination unit will have to quickly build capacity and ascertain its position as the main implementing agency that will coordinate with local institutions.	agency involved and its relationships with other. The river basin plans to be formulated at the beginning of the Project in a participatory manner with Basin stakeholders will be the base to decide where and what type of subprojects will be carried out at the basin level.

Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
Client	In Progress	Both	☐		

Risk Management:

Implementation support will include: (i) providing training to members of the Implementing Units; (ii) reviewing procurement documents and providing timely feedback to the financial and procurement specialists; (iii) installing a customized information system to track contracts and flow of funds; (iii) strengthening each implementing agencies with dedicated procurement and FM staff whose ToR and selection will be subject to the Bank's no objection; (iv) close supervision from Bank FM and procurement specialists.

Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
Both	In Progress	Both	☐		

Project Risks

Design	**Rating**	**Substantial**

Risk Description:

Technical complexity/innovation:
(a) The Project relies on basin planning process, innovative reanalysis to improve coverage of hydro-met information and complex generation of climate change scenarios which are currently not entirely mastered by the national institutions responsible for data generation and dissemination.
(b) Furthermore, proposed activities represent a shift in the current way river basin planning is done and there is a risk that some sectors be overlooked and that all stakeholders are not involved in the participatory planning process.

Implementation arrangements complexity:
(c) Four implementing entities (UCP-PPCR, FPS, SDC

Risk Management:

(a) The institutions will be strengthened by improving staff capacity in handling new technologies through training and working closely with consultants. Some activities will be carried out by international consultants. The World Bank will also provide support in providing comments and no objection to particularly technically challenging contracts (See following risk management measure).

Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
Client	Not Yet Due	Implementation	☐		

Risk Management:

(b) The World Bank team will provide support in the development of the Terms of Reference for the river basin plans, the reanalysis process and the generation of climate change scenarios, and will give its no objection only to qualified consultants and will supervise implementation of the plans. A generic basin planning methodology will be developed before the Terms of Reference are prepared and relevant stakeholders will be

and SEARPI) of different level and nature, with significant institutional challenges mainly as it relates to MMAyA for putting in place required arrangements; and the need to involve/interact with related Regional Governments. (d) Risk of political interference when prioritizing investments or a risk that the basin plans are not implemented, for lack of financing resources or commitments. In addition, the different political affiliations between the central government and the department of Santa Cruz could potentially make overall project coordination and M&E difficult or slow down project implementation. (e) Project design will require transfer of funds to SDC and SEARPI. Though these have been chosen for their experience in managing donor-funded projects, both entities do not have experience in WB funded projects. Also there are risks related to potential delays, overruns due to weak budgeting processes, but also likelihood of administrative mistakes, if adequate guidance and other strengthening mechanisms are not consistently applied.	trained in this methodology. Moreover, the type of subprojects eligible for project financing in both sub-basins has been reduced to key priority sectors, which will enable implementing units to focus their efforts and resources.

Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
Bank	In Progress	Both	☐		

Risk Management:

(c) Strong coordination agreements will be established between four implementing entities (UCP-PPCR, FPS, SEARPI and SDC), making clear what the responsibilities of each party are. The departments of Cochabamba and Santa Cruz are among the most competent departments in the country. They are also very motivated to implement a river basin management approach and have both created decentralized/deconcentrated organizations (SEARPI and SDC) with this mandate. SEARPI or SDC are already benefiting from projects financed by donors.

Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
Bank	In Progress	Preparation	☐		

Risk Management:

(d) Political interference in prioritizing investments will be reduced through the adoption of a participatory approach to planning. The participatory approach should also increase ownership of the plan and therefore the chances that it is implemented. Implementation of the plans will be partly financed by the Project. The plan will include a financing section in which its activities will be matched with financing sources. The participation of municipalities and departments in the formulation process should ensure consistency between basin plans and local development plans and therefore increase the likelihood of implementation of the basin plan.

Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:
Client	Not Yet Due	Implementation	☐		

Risk Management:

(e) Policies, procedures, information systems and other related tools will be assessed and, if applicable, will be strengthened and streamlined to make sure they fully respond to project needs, taking into account a clear definition of specific role, in particular in relation with financial management.

Resp:	Status:	Stage:	Recurrent:	Due Date:	Frequency:

<table>
<tr><td></td><td>Bank</td><td>In Progress</td><td>Both</td><td>☐</td><td></td><td></td></tr>
<tr><td>Social and Environmental</td><td>Rating</td><td colspan="5">Low</td></tr>
<tr><td rowspan="5">Risk Description:

Environmental:
(a) Lack of a project’s environmental baseline and incomplete understanding/knowledge of environmental degradation processes and interactions among them might undermine any effort to design and implement proper subprojects to increase socioeconomic and natural systems’ resilience to climate change in selected sub-basins.

Social:
(b) Vulnerable groups (indigenous people, women, etc.) have been historically disenfranchised from participation in community decisions, for various reasons. Moreover, at this stage it is not known to what extent project activities such as subprojects will affect them.</td><td colspan="6">Risk Management:
(a) River Basin Management Plans will include a robust and comprehensive environmental baseline and description of major environmental degradation processes in sub-basins.</td></tr>
<tr><td>Resp:
Client</td><td>Status:
Not Yet Due</td><td>Stage:
Implementation</td><td>Recurrent:
☐</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td colspan="6">Risk Management:
(b) The basin planning methodology will include a stakeholder analysis and the development of a communication strategy to insure that all categories of stakeholders have the opportunity to participate (including women and other vulnerable groups).</td></tr>
<tr><td>Resp:
Client</td><td>Status:
In Progress</td><td>Stage:
Both</td><td>Recurrent:
☐</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Program and Donor</td><td>Rating</td><td colspan="5">Low</td></tr>
<tr><td rowspan="3">Risk Description:

The Project is part of a broader program, the SPCR, which also includes a project financed by IADB to improve climate resilience of the city of El Alto. However, the success of the proposed Project does not depend on the success/timing of the IADB project, as the only activities of the proposed Project that depends somewhat on the IADB project are: (i) the development of the methodology for Integrated River Basin Management that should built on the experience of the pilot river basins; and (ii) the operation of the SPCR M&E system that depends on adequate flow of information from both Projects. The proposed Project will benefit and complement the support provided by COSUDE, JICA and GIZ in the Rio Grande Basin.</td><td colspan="6">Risk Management:
The UCP-PPCR has been created to ensure proper coordination of PPCR activities, including IADB and World Bank components of the SPCR. In addition, there will be (i) annual meetings to review their respective progress; (ii) organization of at least one joint supervision mission between the World Bank and IADB annually and (iii) designing a common SPCR M&E system that will be under the responsibility of the UCP-PPCR. Joint missions will also be organized with COSUDE, GIZ and JICA.</td></tr>
<tr><td>Resp:
Bank</td><td>Status:
In Progress</td><td>Stage:
Both</td><td>Recurrent:
☐</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Delivery Monitoring and Sustainability</td><td>Rating</td><td colspan="5">Moderate</td></tr>
</table>

<table>
<tr><td rowspan="4">Risk Description:

Project delivery/contract monitoring. See risks related to implementation agency

Monitoring and Evaluation. See risks related to implementation agency

Sustainability:
(a) Local measures (namely subprojects) to enhance climate resilience in the sub-basins may be unsustainable for lack of capacity, funds, and/or ownership.
(b) The reliance on an ad-hoc Implementing Agency instead of relying on an existing institution at the central level could negatively affect the sustainability of the Project as built-up capacity would in theory be demobilized at the end of the Project.
(c) There is a risk that the pilot activities that are being implemented in the sub-basins will never be replicated in the rest of the country.</td><td colspan="6">Risk Management:

(a) (i) Subprojects eligible for Project financing will be limited to a few priority “sectors” in each sub-basins in order to better ensure subproject quality and sustainability by having project staff who are specialized in those “sectors” and therefore able to evaluate subproject feasibility studies and undertake adequate supervision; (ii) subprojects will systematically include required capacity building to those responsible for their O&M and (iii) subprojects ownership will be strengthened through the adoption of a participatory approach in which beneficiaries will identify subprojects through the planning process and contribute (in cash or kind) to subproject execution.</td></tr>
<tr><td>Resp:
Client</td><td>Status:
Not Yet Due</td><td>Stage:
Implementation</td><td>Recurrent:
☐</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td colspan="6">Risk Management:

(b) As the coordinating unit for all PPCR activities in Bolivia, namely the implementation of activities under the SPCR, the UCP-PPCR should be interested to look beyond the Project's results towards a longer 10-20 year horizon. It should also be interested to replicate the approaches developed in the pilot basins to other basins in the country.</td></tr>
<tr><td>Resp:
Client</td><td>Status:
Not Yet Due</td><td>Stage:
Implementation</td><td>Recurrent:
☐</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td colspan="6">Risk Management:

(c) The project includes the preparation and dissemination of national guidelines for integrated, participatory, basin scale, climate change adaptation planning. The Project will also support the revision and dissemination of the national guidelines for irrigation subproject feasibility studies to increase the climate resilience of subprojects. These guidelines will promote broad application of the basin planning approach and climate resiliant design in irrigation subprojects throughout the country. Close coordination with other donors who are working in similar topics in other parts of the country for the formulation of the guidelines will also be key to ensure replicability.</td></tr>
<tr><td>Resp:
Client</td><td>Status:
Not Yet Due</td><td>Stage:
Implementation</td><td>Recurrent:
☐</td><td>Due Date:</td><td>Frequency:</td></tr>
<tr><td>Other (Optional)</td><td>Rating</td><td colspan="5">Low</td></tr>
<tr><td>Risk Description:</td><td colspan="6">Risk Management:</td></tr>
</table>

	Resp:	**Status:**	**Stage:**	**Recurrent:** ☐	**Due Date:**	**Frequency:**
Other (Optional)	**Rating**	**Low**				
Risk Description:	**Risk Management:**					
	Resp:	**Status:**	**Stage:**	**Recurrent:** ☐	**Due Date:**	**Frequency:**

Overall Risk

Overall Implementation Risk:	**Rating**	**Substantial**

Risk Description:

The reliance on an autonomous ad-hoc unit under the Minister of Water and Environment at the central level (UCP-PPCR), two existing and well functioning institutional at the river basin level (SEARPI and PROMIC) and an experienced institution for the implementation of investment subprojects (FPS) should allow smooth project implementation. Nevertheless some risks of delays in project implementation remain related to the relative complexity of the institutional arrangements and the possibility that FPS be overwhelmed by the number of projects for which it is responsible

Annex 5: Implementation Support Plan

The Implementation Support Plan describes how the World Bank and other development partners will support the implementation of the risk mitigation measures (identified in the ORAF) and provide the technical advice necessary to facilitate achieving the PDO (linked to results/outcome identified in the result framework). The ISP also identifies the minimum requirements to meet the World Bank's fiduciary obligations. Its content is as follows: (i) strategy and approach for implementation support; (ii) main focus in term of support; (iii) skill mix required; and (iv) role of partners.

Strategy and Approach for Implementation Support

Project implementation support from the Bank will include the regular semi-annual Bank full supervision mission, weekly meeting/audio conference between the Bank team and the UCP-PPCR team as well as daily close supervision from the Bank staff located in Bolivia. Supervision missions will include randomized field visits to the sites of subprojects and to SEARPI and SDC. Supervision mission will also include meetings with the cooperation partners to coordinate support to the GOB. At least one combined supervision mission with IADB, GIZ and COSUDE will take place by year. Additional close support from Bank procurement, financial management and safeguards experts will be required. In addition, the Bank will mobilize recognized international experts to advise Government on the implementation of its technical components, in particular the ones related to hydro-meteorological information and its treatment, modeling and flood alert system.

The Implementation Support Plan will be revised at least once a year to ensure that it continues to meet the implementation support needs of the Project. Semi-annual Bank full supervision missions complemented with short follow-up technical missions by Bank staff in Bolivia local office, (including field visits to investments financed under Component C) would concentrate in the follows areas:

Strategic: Supervision missions would meet with National and local authorities to: (i) review project activities; (ii) re-confirm strategic alignment of the different project's aspects, in particular the integration of activities from the different components; and (iii) discuss progress in crosscutting issues such as M&E, training, communication, dissemination of project results and experiences, and linkage with similar initiatives.

Technical: Supervision would concentrate on the implementation of the subproject cycle with regard to Component C, as well as ensuring the project's ability to provide quality management of project's interventions, both centrally through UCP-PPCR and FPS and at the departmental levels through SEARPI and SDC. Randomized field visits would serve to verify compliance with the Project Operational Manual and contribute to adjustments to project design, as needed, given results on the ground. Thematic specialists would complement the permanent Bank supervision team, through short-term cross-support of Bank staff.

Safeguards: Support provided during preparation would continue throughout project implementation, mainly with regards to the application of the IPPF, EMF and RPF from the implementation of subprojects and the formulation of River Basin plans. Supervision from Bank safeguard specialist will take place at least once a year.

Fiduciary: The Bank would provide timely support through periodic supervision of procurement and FM aspects during project implementation. These specialists would: (i) supervise and train UCP-PPCR, FPS, SEARPI and SDC staff in conducting procurement under subprojects, in compliance with the Procurement and Anti-Corruption Guidelines and the Project Operational Manual; and (ii) work with UCP-PPCR, FPS, SEARPI and SDC in enhancing their overall financial management and procurement capacity to improve and facilitate project implementation. Supervision of the project's financial management arrangements would be conducted semi-annually and, as needed, in response to client needs. Procurement supervision would also be carried out semi-annually during regularly-scheduled Bank supervision.

Implementation Support Plan

Time	***Focus***	***Skills Needed***	***Resource Estimate***	***Partner Role***
1-48 months	Strengthening the capacity of SDC, SEARPI, FPS and UCP-PPCR	A mix of technical skills on financial management, procurement, environmental and social safeguards, climate change adaptation, integrated water resource management, basin planning, watershed and flood protection and sustainable land management, irrigation and drainage, monitoring and evaluation.	*US$ 150.000 per year*	The IADB will contribute with its expertise in terms of strategic and technical advice to improve the implementation of the different components. GIZ/COSUDE will participate in supervision missions and contribute with their expertise on strategic and operational issues.

Skills Mix Required

Skills Needed	**Number of Staff Weeks (per year)**	**Number of Trips (per year)**	**Comments**
Task Team Leader, Water Resources Management Specialist	*15*	3	HQ –based

Co-TTL Bolivia based	20	6	Country office, but needs to visit the departments
Technical junior Bolivia or HQ based Based	8	2	Country office – based, but needs to visit the field
Financial Management Specialist	2	2	Country office –based, but needs to visit the field
Procurement Specialist	3	2	Country office –based, but needs to visit the field
Environmental Specialist	2	1	Lima Office
Social Specialist	2	1	HQ –based
WRM specialist (STC)	4	2	Spain-Based
Climatologist (STC)	4	2	Bolivia-based

Partners

Name	***Role***
IADB	*IADB will strengthen the project by means of the instruments developed, used and improved in its activities in basins and micro basins. All along the implementation and particularly during the combined missions, the IADB will contribute with its expertise in terms of strategic and technical advice to improve the implementation of the different components.*
GIZ/ KfW/COSUDE/JICA/EU	*Those institutions are working in the sector and are financing activities in the Departments of the PPCR. Their learned lessons will support the implementation of the project. The development of techniques and tools based on their own experiences will be shared with the government and the WB team. They will participate in supervision missions and contribute with their expertise on strategic and operational issues. Additionally, they will complement Project activities in the pilot sub-basins of the Rio Grande, focusing on strengthening the capacity of participation mechanisms, building the capacity of SDC and identifying subprojects.*