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Report No: 69803-BO

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED STRATEGIC CLIMATE FUND CREDIT

IN THE AMOUNT OF US$ 36 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

September 23, 2013

CURRENCY EQUIVALENTS

(Exchange Rate Effective September 13, 2012)

Currency Unit	=	Bolivian Bolivianos (BOB)
BOB 6.91	=	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 or CAS	*Estrategia de Alianza País*	Country Partnership Strategy
EMF	*Marco de Gestión Ambiental*	Environmental Management Framework
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 Cambio Climático*	National Mechanism for Adaptation to 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
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

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

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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, making it one of the most mountainous countries in the world. Two third of the 10 million inhabitants live in urban areas. More than half of the Bolivian population has an indigenous background.

2. In recent years the country has experienced significant socio-political and economic change. Driven by high commodity prices and prudent fiscal and monetary policies, Bolivia's economy has grown on average 4.75 percent annually for the past nine years, increasing per capita income by 24 percent. Oil and mining constitute half the economy, but agriculture concentrates 30 percent of the labor force. Gross public debt dropped from 96 percent of gross domestic product (GDP) in 2003 to 32 percent in 2012. The national poverty rate declined slightly, from 60 percent in 2005 to 45 percent in 2011, the rural extreme poverty dropped 25 percent over the same time period and income inequality has trended downward.

3. Despite progress, Bolivia faces major development challenges. With US$2.020 per capita income in 2011, Bolivia has one of the lowest GDP per capita levels in Latin America and the Caribbean (LAC). Moderate poverty afflicts more than half of the population and income inequality is still very high. Recent economic growth is vulnerable to shifts in international commodity prices and total investment is low, limiting economic expansion. Productive enterprises in the rural sector remain hampered by inadequate social and technical infrastructure. Informality is very high, translating into lower levels of productivity and reduced tax revenue. Public sector governance is weak, limiting policy effectiveness and outcomes. Social indicators, while improving since the 1990s, are still well below levels in neighboring countries. Social and political tensions could return to the fore, especially if economic development slows down.

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 rural and urban poor, women, children and the elderly.

5. Bolivia has begun to take steps to build 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 National Mechanism for Adaptation to Climate change (MNACC, 2007-2016) and the Strategic Program for Climate Resilience (SPCR). The

MNACC is a multi-sector participatory action plan to build resilience to climate change. Building on the MNACC, 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. 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) stakeholder 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. For those projects Bolivia received US$90 million from the Climate Investment Fund (CIF), of which US$54 million grant and a US$36 million concessional loan.

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 December 2013. Among other things, the first phase financed the SPCR (see Annex 2 for more details).

C. Higher Level Objectives to which the Project Contributes

10. The proposed Project will support one of the three strategic areas of the 2012-2015 Country Partnership Strategy (CPS) for Bolivia (report # 65108, Board approval: 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.

11. The Project will also contribute to the Government of Bolivia (GOB) 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 Bolivia's strategy for climate resilience by strengthening institutional capacity to define the new integrated river basin management approach to climate change adaptation, and 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 river basin management approach (IRBM); in climate resilient sub-project design and overall water and climate information system. The Ministry of Planning (MOP) 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) hydro-meteorological information system will be strengthened too.

(b) Direct beneficiaries of the subprojects carried out in the pilot sub-basins. They 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. This includes 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. Finally, 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 the number of Project beneficiaries.

C. PDO Level Results Indicators

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

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

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

(c) Availability[4] and adequacy of accurate, timely and reliable hydro-meteorological data and forecasts[5], measured through theincrease in target users[6] satisfaction;

(d) Number of pilot sub-basins where an Integrated River basin management system[7] focused on improving climate resilience[8] is operational[9]

(e) Direct Project Beneficiaries[10] (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. Strengthening of the National Climate and Water Information System through*: (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 information nodes; and (d) Training of staff of these institutions.

17. *Sub-component A.2. Integration of Climate change Resilience considerations into selected National Planning and Investment Tools*. This consists of: (a) The updating of planning methodologies and investment guidelines to include Climate Change considerations, including the development of a methodological guide for climate resilient IRBM and the revision of the guidelines for irrigation projects pre-investment studies; (b) The training of Government officials

[1] Through an official channel such as a letter of instruction, decree, etc.
[2] MMAyA through its vice-ministry of water resources and irrigation
[3] Through an annual survey and audit
[4] Through a publicly-accessible website or systematized inter-institutional exchanges of data
[5] From an integrated and reliable climate and water information system
[6] Annual survey to academia, national and local disaster and risk management institutions, general public
[7] Including an participatory River Basin Management Plan, an executing agency, participation of all water users through a representative association/institution.
[8] As defined in national guidelines and/or the River Basin Management Plan.
[9] 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.
[10] From sub-projects only.

from MOP, MMAyA, SEARPI and SDC, among others, on the use of these new tools and (c) Technical assistance to MOP for the inclusion of climate change consideration in the next 5-year National Development Plan.

18. *Sub-component A.3. Project Management Support, SPCR Coordination and Knowledge Management*. This sub-component would finance: (a) The administration and auditing of the Project and (b) Mechanisms for the coordination, monitoring and evaluation of the overall PPCR program, including the strengthening of the UCP.

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

19. *Sub-component B.1. Strengthening Institutions responsible for Integrated, Participatory, Basin-scale, Climate change Adaptation Planning and Management, in three pilot sub-basins.* This will finance: (a) Strengthening the capacity of SDC and SEARPI to ensure the successful and efficient implementation of project activities and (b) Establishment or strengthening of mechanisms or institutions to facilitate stakeholder participation.

20. *Sub-component B.2. Strengthening of the Basin Water and Climate Information Systems in three pilot sub-basins*. This sub-component will finance the strengthening of sub-basin water and climate information including: (a) Upgrading the sub-basins hydro-meteorological observation network; and (b) The creation/strengthening of data processing centers and early warning systems for floods and/or droughts.

21. *Sub-component B.3. Integrated, Multi-sectoral, Participatory, Basin-scale, Climate change Adaptation Planning, in three pilot sub-basins*. This would include financing and facilitating the formulation of climate resilient river basin management plans in each pilot sub-basin.

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

22. This component will support the implementation of subprojects to enhance socioeconomic and natural systems' resilience to climate change in the pilot sub-basins. This will include financing: (a) Pre-investment studies, including social and environmental safeguards; (b) Works, goods and services for the implementation of the subprojects; and (c) Training of beneficiaries in charge of subprojects' operation and maintenance.

23. Sub-projects will be implemented following two modalities described in the Project Manual. The first modality corresponds to sub-component C.1., the second modality corresponds to sub-component C.2. Under sub-component C.1, sub-projects are mostly structural by nature and are implemented through the *Fondo Nacional de Inversión Productiva y Social* (FPS). Under sub-component C.2., sub-projects are mostly non structural by nature and are implemented through SEARPI and SDC.

B. Project Financing

Lending Instrument

24. The lending instrument is a Specific Investment Loan (SIL).

Project Cost and Financing

25. The total cost of the Project is estimated at US$53.3 million. The Project will be financed through a $9.5 million grant and a $36 million credit from the CIF's Strategic Climate Fund (SCF). In addition, there will be $7,8 million of contributions from national, regional and local government

		WB Financing		Counterpart
	Total Cost	Loan	Grant	Total
Component A: Strengthening national capacity for climate change adaptation	**$ 5,65**	**$ 2,40**	**$ 3,25**	
Sub-component A.1. Strengthening of the National Climate and Water Information System	$ 2,25	$ 2,25		
Sub-component A.2. Integration of climate change resilience considerations into selected national planning and investment tools	$ 0,15	$ 0,15		
Sub-component A.3. Project Management Support, PPCR Coordination and Knowledge Management	$ 3,25		$ 3,25	
Component B: Strengthening capacity for adaptation to climate change in the Rio Grande River Basin	**$ 5,55**	**$ 2,30**	**$ 3,25**	
Sub-component B.1. Strengthening institutions responsible for Integrated, Participatory, Basin-scale, Climate Change Adaptation Planning and Management, in three pilot sub-basins	$ 1,00		$ 1,00	
Sub-component B.2. Strengthening of the Water and Climate Information System in three pilot sub-basins	$ 2,30	$ 2,30		
Sub-component B.3. Integrated, Participatory, Basin-scale, Climate Change Adaptation Planning, in three pilot sub-basins	$ 2,25		$ 2,25	
Component C: Design and implementation of subprojects that improve climate resilience in the Rio Grande River Basin	**$ 39,10**	**$ 28,30**	**$ 3,00**	**$ 7,80**
Sub-component C.1. Subprojects implemented through FPS with financial participation of municipal governments	$ 26,37	$ 18,80	$ 1,40	$ 6,07
Sub-component C.2. Subprojects implemented through SDC and SEARPI with in kind contribution from direct beneficiaries	$ 12.83	$ 9,50	$ 1,60	$ 1,73
Total	**$ 50,30**	**$ 33,00**	**$ 9,50**	**$ 7,80**
Contingencias físicas	$ 1,00	$ 1,00		
Contingencias de Precios	$ 2,00	$ 2,00		
COSTO TOTAL DEL PROYECTO	**$ 53,30**			

C. Lessons Learned and Reflected in the Project Design

Implementation arrangements

26. Past experiences in Bolivia have shown (PPCR phase 1; PAR[11] and the PDCR[12]) 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 administration and technical implementation of the Project, curtailing significantly the risks of implementation delays. It is also a good way to promote replication of the Project approach in other parts of the country.

27. Another lesson is that the participation and strengthening of existing technical organizations is key to the project's sustainability because it favors the replication and continuation of the its approach once the project closes. The proposed Project will rely on, and strengthen, institutions that have the legal mandate for river basin management in the regions of Cochabamba and Santa Cruz: SDC and SEARPI. It will also strengthen SENAMHI the institution responsible for hydro-meteorological information at the national level.

28. 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[13] and PDSLT[14]).

Subprojects sustainability and resilience

29. International good practices and specific experiences in Bolivia (such as the Bank-financed PDCR or the CAF[15]-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

30. 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 these three principles (see appraisal summary – technical for more details) through basin planning.

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

31. 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 reduce 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.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

32. The PPCR Coordination Unit[16] (UCP-PPCR) will be responsible for overall Program and Project coordination, M&E of the overall PPCR program along with MOP, 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.

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

34. MOP will be responsible for the technical implementation of component A.2.c. 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.

35. SENAMHI will be responsible for the technical implementation of sub-components A.1 and sub-component B.2 in the Mizque and Rocha sub-basins.

36. FPS will be responsible for the implementation of subprojects under sub-component C.1 once feasibility studies are prepared;

37. SEARPI and SDC will be responsible for the technical implementation of sub-component B.1 and B.3, as well as the fiduciary and technical implementation of sub-component C.2 and of sub-component C.1. up to when the feasibility studies are completed. SEARPI will also be responsible for the technical implementation of sub-component B.2. in the Piraí basin.

38. Inter-institutional Agreements will be signed between the UCP-PPCR/MMAyA on one hand and SENAMHI, FPS, SEARPI and SDC on the other. Those agreements will specify the Project implementation responsibilities of each party. Those agreements will be signed before any disbursement can be made related to the activities for which each agency is responsible.

Participation of beneficiaries and stakeholders

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

39. 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

40. 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[17]. 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

41. The UCP-PPCR will have overall responsibility for Project monitoring and evaluation (M&E). MOP 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. Details on the approach and implementation arrangements for M&E are in Annex 3.

42. The UCP-PPCR will submit semi-annual progress reports, baseline studies, the mid-term review and the final project evaluation to the Bank and MOP.

43. M&E arrangements for PDO and intermediate results indicators are detailed in Annex I.

[17] 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.

C. Sustainability

44. 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 regional institutions which have the legal mandate for river basin management in their jurisdiction, and have been institutionally stable. Project implementation through these institutions should 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) Sub-project sustainability will be ensured through the adoption of a demand-driven and participatory approach to sub-project 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	Substantial
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

45. 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 partially mitigated 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

46. 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.

47. The economic analysis of the water and climate information system component was not carried out for two reasons: Firstly, this type of analysis is very complex and secondly the relative weight of this component in the Project total cost is modest (4 per cent).

48. The economic analysis of the subprojects, which represents 73 percent of the Project's total cost, follows a "framework approach". Under this approach, the economic viability of each sub-project 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 (see what to put where)

49. *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. It allows keeping the Project focused while improving climate resilience of the economy, ecosystems and human settlements.

50. *Climate resilient, integrated, participatory, basin-scale 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. 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 makes it well suited to adaptively manage climate change impacts. It enables the reconsideration and adjustment of plans in response to climate change in accordance to monitored data. Moreover, long-term climate projections will be integrated into the planning process and the design of measures (driven by current pressures) that have a long design life and high costs.

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

52. *Water and Climate Information System*. To ensure a successful IRBM 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.

53. *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

54. Four institutional will have financial management responsibilities: a) FPS, under the Ministry of Development Planning; b) the UCP-PPCR within the MMAyA; c) SDC of the Cochabamba Departmental Government, and d) SEARPI of the Santa Cruz Departmental Government. Detailed on the Financial Management arrangements are presented in Annex 3.

D. Procurement

55. The procurement activities will be carried out by four institutions: a) FPS, under the Ministry of Development Planning; 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. An Indigenous Peoples Planning Framework (IPPF) was prepared because the specific locations of subprojects (component C) will only be known during Project implementation. 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 regional 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. Since, the specific locations for these subprojects will only be known during Project implementation, a Resettlement Policy Framework (RPF) was prepared.

59. Two types of subprojects have been identified during project preparation: a) infrastructure subprojects mainly related with irrigation and flood protection, and b) non

structural subprojects related to integral basin management. The land that could be affected by these small works are 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.

60. 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)

61. 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.

62. The following environmental safeguards have been activated: Environmental Assessment (OP/BP/GP 4.01), Natural Habitats (OP/BP/GP 4.04), Physical Cultural Resources (OP/BP 4.11)[18], Forests (OP/BP/GP 4.36). Safety of Dams (OP/BP 4.37)[19], and Pest Management (OP/BP 4.09)[20]. 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 in April 2013, before Project appraisal. 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 *(if required)*

63. 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[21] 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.

[18] 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.
[19] This policy is triggered given that subprojects may include irrigation or flood control infrastructure, small dams, or water retention.
[20] 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.
[21] The exception provided under paragraph 7(a) of OP 7.50.

Annex 1 A: Results Framework and Monitoring

Country: Bolivia

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

Results Framework

Project Development Objectives

PDO Statement

The Project Development Objective (PDO) is to support the implementation of Bolivia's strategy for Climate Resilience, by strengthening institutional capacity to define and implement the new Integrated River basin management approach to Climate change adaptation.

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	End Target			
Adoption by the Government of an Integrated River Basin Planning Methodology that includes CC	☐	Yes/No	No					Yes	Bi-monthly review of progress towards objective	Official Publications	UCP-PPCR
Number of government institutions using the tools developed by the PPCR for	☐	number						3	Annual survey and audit	Surveys of target users	Survey to be done to SEARPI, SDC, Senamhi,

CC adaptation											
Availability[22] and adequacy of accurate, timely and reliable hydro-meteorological data and forecasts[23], measured through theincrease in target users[24] satisfaction	☐	Percentage						30%	Annual survey and audit	Surveys of target users	UCP-PPCR
Number of pilot sub-basins where an Integrated River basin management system focused on improving climate resilience is operational	☐	Number	0.00					3.00	Annual audit by UCP-PPCR of progress toward objective	SEARPI and SDC	UCP-PPCR
Direct project beneficiaries*	☒	Number	0.00						Quarterly reporting and annual audit of data	SDC, SEARPI and FPS	UCP-PPCR

[22] Through a publicly-accessible website or systematized inter-institutional exchanges of data
[23] From an integrated and reliable climate and water information system
[24] Annual survey to academia, national and local disaster and risk management institutions, general public

Female beneficiaries*	☒	Percentage	0%						Quarterly reporting and annual audit of data	SDC, SEARPI and FPS	UCP-PPCR

Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	Cumulative Target Values					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR1	YR2	YR3	YR4	End Target			
Number of data sharing protocols signed between institutions involved in the creation or compilation of hydro-meteorological data	☐	Number	0.00					3.00	Annual review of progress toward objective	SENAMHI	UCP-PPCR
Website for dissemination of centralized hydro-meteorological data is operational	☐	Yes/No	No					Yes	Bi-monthly review of progress towards objective	SENAMHI	UCP-PPCR
Adoption by the Government of Guidelines for the integration of climate	☐	Yes/No	No					Yes	Bi-monthly review of progress towards objective	Official Publications	UCP-PPCR

resilience in pre-investment studies in the irrigation sector											
MOP, MMyA, SEARPI and SDC demonstrate a better capacity to understand and take into account climate change impacts, through a capacity assessment.	☐	Yes/No	No					Yes	Capacity assessment ex-ante and ex-post	Independent assessment MOP, MMyA, SDC and SEARPI	UCP-PPCR
Number of IRBM participation mechanisms established	☐	Number	0.00					2.00	Baseline assessment, then quarterly review of progress towards objective	SDC and SEARPI	UCP-PPCR
Number of hdyro-meteorological stations installed	☐	Number	0.00					30	Semi-annual audit of data	SENAMHI, SDC and SEARPI	UCP-PPCR
Number of hdyro-meteorological stations rehabilitated	☐	Number	0.00					20	Semi-annual audit of data	SENAMHI, SDC and SEARPI	UCP-PPCR
Number of data processing stations created or rehabilitated	☐	Number	0.00					5	Semi-annual audit of data reported	SENAMHI, SDC and SEARPI	UCP-PPCR

Number of flood and drought early warning systems strengthened or established	☐	Number	0.00					2.00	Semi-annual review of progress	SDC and SEARPI	UCP-PPCR
Number of integrated river basin management plans adopted	☐	Number	0.00					3.00	Annual review of progress then assessment of adopted Plans	SDC and SEARPI	UCP-PPCR
Area provided with irrigation and drainage services (ha)*	☒	Hectare(Ha)	0.00						Monthly reporting and annual audit of data	FPS	UCP-PPCR
Area provided with irrigation and drainage services - New (ha)*	☒	Hectare(Ha)	0.00								
Area provided with irrigation and drainage services - Improved (ha)*	☒	Hectare(Ha)	0.00								
Additional area protected from erosion (Ha)*	☐	Hectare(Ha)	0.00						Quarterly reporting and annual audit of data	SDC, SEARPI and FPS	UCP-PPCR

Length of waterways equipped with new or rehabilitated flood protection defensive installations*	☐	Kilometers	0.00						Monthly reporting and annual audit of data	SEARPI and FPS	UCP-PPCR
Number of sub-projects financed by the PPCR, carried out following the integrated basin planning methodology, which includes CC considerations*	☐	Number	0.00						20	SEARPI and FPS	UCP-PPCR

* End target for these indicators can't be defined ex-ante because number of projects, their scope and the number of beneficiaries will be defined in a participatory manner during project implementation

Project Development Objective Indicators	
Indicator Name	Description (indicator definition etc.)
Adoption by the Government of an Integrated River Basin Planning Methodology that includes CC	Adoption should be through an official channel such as a letter of instruction, decree, etc, by MMAyA through its Vice-Ministry of Water Resources and Irrigation (VMRHyR)
Availability[25] and adequacy of accurate, timely and reliable hydro-meteorological data and forecasts[26], measured through theincrease in target users[27] satisfaction	Indicator is % increase in thetarget user's of hydro-met data satisfaction s. Target users are academia, national and local disaster and risk management institutions, general public. Data should be made available from an integrated and reliable climate and water information system, through a publicly-accessible website or systematized inter-institutional exchanges of data. The % of satisfaction would 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 must be agreed upon in a participatory process, agencies and association must be staffed and sustainable, design and implementation of relevant sub-projects must be well under-way. Climate Resilience must be a pillar of the system, and a criteria for the selection of sub-projects for Component C.
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 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.

[25] Through a publicly-accessible website or systematized inter-institutional exchanges of data
[26] From an integrated and reliable climate and water information system
[27] Annual survey to academia, national and local disaster and risk management institutions, general public

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)
Number of data sharing protocols signed between institutions involved in the creation or compilation of hydro-meteorological data	There are potentially three protocols that can be signed: with AASANA, SDC and SEARPI. The target can be adjusted during appraisal
Website for dissemination of centralized hydro-meteorological data is operational	Website should be accessible and reliable
Adoption by the Government of Guidelines for the integration of climate resilience in pre-investment studies in the irrigation sector	Adoption through an official channel such as a letter of instruction, decree, etc., by MMAyA through its vice-Ministry of Water Resources and Irrigation (VMRHyR).
MOP, MMyA, SEARPI and SDC demonstrate a better capacity to understand and take into account climate change impacts, through a capacity assessment.	A capacity-assessment focusing on the capacity to adapt to climate change will be conducted ex-ante and ex-post for each institution.
Number of IRBM participation mechanisms established	It is expected that 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.
Number of hdyro-meteorological stations installed	No description provided.
Number of hdyro-meteorological stations rehabilitated	No description provided.
Number of data processing stations created or rehabilitated	This is only accounted for when a technician has been recruited and trained to maintain the station and treat the data
Number of flood and drought early warning systems strengthened or established	It is expected that one system be established in each pilot sub-basin (Flood early warning system strengthened in Pirai, drought control and prevention system created in Mizque)
Number of integrated river basin management plans adopted	It is expected that one plan be adopted in each sub-basin (Including area of Mizque sub-basin formally under SEARPI jurisdiction). Plans must be oriented towards climate resilience.
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).

Area provided with irrigation and drainage services - New (ha)	No description provided.
Area provided with irrigation and drainage services - Improved (ha)	No description provided.
Additional area protected from erosion (Ha)	Types of subprojects that fit this description will be detailed during appraisal
Length of waterways equipped with new or rehabilitated flood protection defensive installations	No description provided.
Number of sub-projects financed by the PPCR, carried out following the integrated basin planning methodology, which includes CC considerations	No description provided.

Annex 1: B. PPCR Monitoring and Evaluation Framework

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 includes CC	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%
	MOP, 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 Bolivia's strategy for climate resilience by strengthening institutional capacity to define the new integrated river basin management approach to climate change adaptation, and 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[28] by the Government[29] of an Integrated River Basin Planning Methodology that includes climate change;

(b) Number of government institutions using the tools developed by the PPCR for Climate Change Adaptation[30]

(c) Availability[31] and adequacy of accurate, timely and reliable hydro-meteorological data and forecasts[32], measured through the increase in target users[33] satisfaction;

(d) Number of pilot sub-basins where an Integrated River basin management system[34] focused on improving climate resilience[35] is operational[36]

(e) Direct Project Beneficiaries[37] (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:

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

[28] Through an official channel such as a letter of instruction, decree, etc.
[29] MMAyA through its vice-ministry of water resources and irrigation
[30] Through an annual survey and audit
[31] Through a publicly-accessible website or systematized inter-institutional exchanges of data
[32] From an integrated and reliable climate and water information system
[33] Annual survey to academia, national and local disaster and risk management institutions, general public
[34] Including an participatory River Basin Management Plan, an executing agency, participation of all water users through a representative association/institution.
[35] As defined in national guidelines and/or the River Basin Management Plan.
[36] 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.
[37] From sub-projects only.

(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$5.65 million, CIF financing US$2,40 million CIF Grant US$3,25)

Sub-component A. 1. Strengthening of the National Climate and Water Information System (total cost US$2.25 million, CIF Financing US$2.25 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 (GCM) are being used to drive regional circulation models (RCM). 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. Improved datasets and scenarios are being integrated into a single national climate and water information platform managed by UCP-PPCR, using both numerical (ACCESS) and graphical (GIS) data management

software and made accessible to the public through a user-friendly website. 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 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[38]. 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. Integration of climate change resilience considerations into selected national planning and investment tools. (Total Cost US$0.15 million, CIF Financing 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 IRBM and the revision of the guidelines for irrigation projects pre-investment studies; (b) The training of Government officials from MOP, MMAyA, SEARPI and SDC, among others, on the use of these new tools and (c) Technical assistance to MOP 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 for carrying out the consultation process with indigenous people for developing the

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

planning methodology as prescribed by the Indigenous Peoples Planning Framework (IPPF, see section VI.E).

Sub-component A.3. Project Management Support, SPCR Coordination and Knowledge Management. (Total cost US$3.25 million, CIF Grant US$3.25 million).

11. This sub-component will finance the administration, monitoring and evaluation and auditing of the Project. It will also finance mechanisms for the coordination of the overall SPCR program, such as an integrated M&E system for the projects implemented by different donors. This will require financing of consultant services, training, equipment and software as well as recurrent costs. The activities under this component will be targeted to build cooperation and agreements between the different international cooperation agencies involved in the region, such as GIZ, JICA and COSUDE.

Component B. Strengthening capacity for adaptation to climate change in the Rio Grande River Basin. (Total Cost US$5.55 million, CIF Financing 2.30 CIF Grant US$3.25 million)

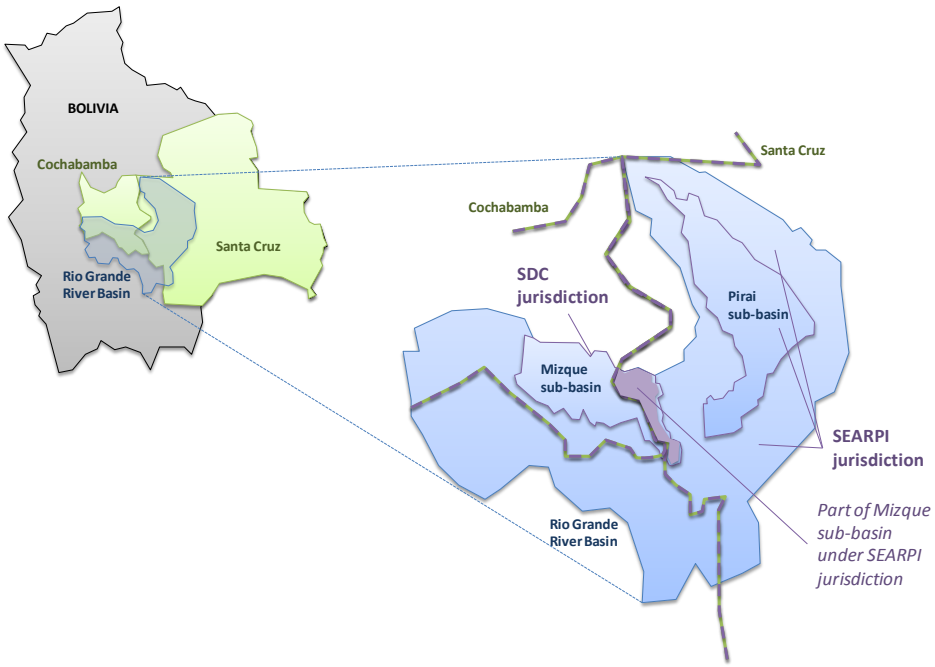
12. The main **objective** of this Component is to strengthen the capacity for adaptation to climate change in three sub-basins of the Rio Grande basin: the sub-basins of Mizque and Rocha in the valleys and the sub-basin of the Piraí River in the lower part of the basin. An additional objective is to 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 Region (*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, comprising 9 municipalities, 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 responsible for Integrated, Participatory, Basin-scale, Climate Change Adaptation Planning and Management, in the pilot sub-basins. (Total Cost US$1,0 million, CIF Grant US$1,0 million).

16. This sub-component will 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.

17. 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.

Sub-component B.2. Strengthening of the Water and Climate Information Systems in the pilot sub-basins. (Total Cost US$2,30 million, CIF Financing US$2,30 million).

18. In the Pirai sub-basin, improving the hydro-meteorological observation networks is critical, as actual river levels are measured manually, in few locations. A full set of automatic stations should be installed in order for the early warning system to be efficient and to be operated seamlessly. 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, as all these phenomena are linked. Critical areas need to be identified, in order to consider structural or non-structural actions to correct or protect them.

19. 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.

20. 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 design of proposals to upgrade the sub-basins hydro-meteorological observation networks and the increased availability of historical hydro-meteorological data and climate change scenarios. The activities supported under the proposed Project include:

(a) A contract including the upgrading of the sub-basins hydro-meteorological observation networks through: (i) densification by installing new stations; (ii) re-positioning of existing stations to better location; (iii) rehabilitation and calibration of existing stations; and (iv) upgrading all stations to a real-time communication system that will allow remote control of the stations;

(b) The contract mentioned in paragraph a) will also include 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.

(c) 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;

(d) 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 developed by a consultant or a company, and 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.

Sub-component B.3. Integrated, Participatory, Basin-scale, Climate Change Adaptation Planning, in the pilot sub-basins. (Total Cost US$2.25 million, CIF Grant US$2.25 million).

21. This sub-component 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.

22. 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.

23. 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.

Component C. Design and implementation of subprojects that improve climate resilience in the pilot sub-basins of the Rio Grande River Basin. (Total Cost US$39.10 million, CIF financing US$28.30 million, CIF Grant US$ 3.30 million, Counterpart financing US$7,80 million)

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

25. **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.

26. **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-vegetalization; 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)

27. **Subproject identification:** Sub-projects 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, sub-projects may also be implemented, but only when it can be demonstrated that they will increase resilience to climate change effects.

28. **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.

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

Table 1: Subproject Financing

	Infrastructure subprojects	**Watershed Management subprojects**
Feasibility studies, including safeguards	100% CIF	100% CIF
Subproject Execution	30% decentralized governments and/or direct beneficiaries	30% decentralized governments and/or direct beneficiaries
Supervision and	100% CIF	100% CIF

training/technical assistance		

30. **Subproject Cycles**. As mentioned above, depending on the type of sub-projects considered implementation modalities differ (see Table 2 below for more details). In the case, of infrastructure subprojects, SEARPI and SDC are in charge of the identification, priorization and pre-investment phases [39]of the sub-project 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.

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

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Annex 3: Implementation Arrangements

BOLIVIA: Bolivia Climate Resilience - Integrated Basin Management

Project Institutional and Implementation Arrangements

1. The PPCR Coordination Unit[40] (UCP-PPCR) will be responsible for overall Program and Project coordination, M&E of the overall PPCR program, 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 will report directly to the Minister of Environment and Water and will be granted administrative and budgetary autonomy.

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.

(c) Finally, such implementation arrangements were presented by the Government of Bolivia in its SPCR which was endorsed by the CIF committee in November 2011.

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:

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

(e) FPS, under the Ministry of Planning, 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 decentralized offices at the departmental level, including Cochabamba and Santa Cruz.

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

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

department 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.

(g) The SDC was created in 2012 as a "*desconcentrated*" institution of the Regional Government of Cochabamba, on the basis of the PROMIC, a program that was created in 1991 and supported by various Development Partners. It is responsible for basin planning and management in the Region of Cochabamba. The SDC (ex PROMIC) and SEARPI at the departmental level are well run institutions with long experience in implementing donors' projects.

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

(h) 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 Mizque sub-basin under sub-component B.2, in coordination with SDC;

(i) FPS will be responsible for the implementation of subprojects under sub-component C.1 once feasibility studies are prepared;

(j) SEARPI and SDC will be responsible for the technical implementation of sub-component B.1 and B.3, as well as the fiduciary and technical implementation of sub-component C.2 and of C.1. up to the feasibility studies. In addition, SEARPI will be responsible for the technical implementation of activities in the Pirai sub-basin under sub-component B.2.

5. Inter-institutional Agreements will be signed between the UCP-PPCR/MMAyA on one hand and SENAMHI, FPS, SEARPI and SDC on the other. Those agreements will specify the Project implementation responsibilities of each party. Those agreements will be signed before any disbursement can be made related to the activities for which each agency is responsible.

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 sub-projects 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 the 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 preliminary financial management capacity assessment was carried out to review the adequacy of the financial management arrangements under each of the four proposed implementing entities to support project implementation, i) MMAyA, through UCP-PPCR; ii)

FPS; iii) SEARPI as part of the Regional Government of Santa Cruz; and iv) SDC, a deconcentrated entity of the Regional Government of Cochabamba. 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[41]. At the same time, the following sections identify those aspects that need to be defined in order to complete the design of financial management arrangements to adequately address project needs, as well as to mitigate identified risks.

9. Overall, project design is complex, not only for the number of entities involved (all of different nature and level of government), but also due to the nature of the activities to be financed, e.g. subprojects (infrastructure and watershed management) at local level; which require interaction with municipal governments, communities and other beneficiaries. Although no transfer of funds to third parties is envisaged, management of subprojects [and contracts under each subproject] requires sound operational arrangements, including for financial management, which need to be maintained throughout project life. Out of the four implementing entities, FPS (in charge of Component C1, about --- percent) is a well-established entity that has put in place acceptable financial management arrangements; which with minor adjustments, can adequately support project implementation. However, the UCP-PPCR, created for the implementation of TF – Phase I of PPCR) is not yet a fully operational unit; therefore, having in place acceptable arrangements to manage the activities envisaged under Components A and B (near U$15 million) will still require significant effort and commitment from the MMAyA's side. As it relates to SEARPI and SDC, they do not have experience in implementation of WB-financed projects and definition of FM arrangements still requires to be discussed, and agreed with both entities and with the departmental governments of which they are part of. Project implementation at central level –FPS and UCP-PPCR - would benefit from the use of Government's integrated financial management system SIGMA and Treasury Single Account (CUT) for disbursement processing. However, those country tools are not fully implemented at subnational level (SEARPI and SDC).

10. With the information available of Bolivia's public financial management systems, the involved entities, and project features, the project's **FM risk is rated as substantial** mainly due to: i) weaknesses in the public sector to attract and maintain qualified staff with subsequent high staff rotation, which could adversely affect both project preparation and implementation; and ii) complex project design that requires four implementing entities 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; iii) the need to still work and define important aspects of financial management arrangements mainly for Components under the responsibility of UCP-PPCR, SEARPI and SDC; including agreement and implementation of required mitigation measures.

11. As design of the financial managements arrangements are completed and agreed with the UCP-PPCE, SEARPI, and SDC, and to the extent needed with the Regional Governments of

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

Santa Cruz and Cochabamba, the FM team will be able to conclude on their adequacy and acceptability of proposed FM arrangements.

Summary of Financial Management Arrangements

12. The following sections describe specific arrangements under each implementing entity

Use of Country Public Financial Management (PFM) Systems

13. 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)[42], as well as instructions issued by the Viceministry of Public Investment and External Finance (VIPFE) as applicable. Accordingly, project transactions under all four entities 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 UCP-PPCR and FPS will benefit from the use of those wellfunctioning PFM elements including SIGMA and the Treasury Single Account (CUT); supplementing them where needed to make sure project needs and risks are adequately addressed, mainly as it relates to internal controls, financial reporting and auditing.

14. Project execution under SEARPI and SDC, will be part of budget execution of respective Regional Governments; however, the information systems used there are not fully integrated to the operation of the Treasury Single Account, and nor yet subject to the same controls and requirements that SIGMA has.

MMAyA – UCP-PPCR (Components A and B)

Organizational arrangements and staffing

15. The UCP-PPCR is a "*deconcentrated*" unit within the MMAyA, which was granted with administrative and financial autonomy; whose budget is part of the Ministry's budget. Based on the arrangements defined under the current Phase I of PPCR, the UCP is expected to include an FM team composed by an FM Specialist, an accountant and an administrative assistant. Those positions are currently in the process of being recruited; however, there is need to carefully review the need of any additional staff, as well as reorganizations of functions among them to attend a larger number of activities.

Programming and Budget

16. Project budget will be incorporated as part of the MMAyA's budget under a specific *"Direccion Administrativa"* and therefore, its approval and any required budget modification will be subject to MMAyA's internal regulations. Specific guidelines will be included in the operational manual, for the preparation of an annual operating plan by project component/subcomponent with at least semi-annual budget, which can be consistently used for monitoring purposes.

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

Accounting – Information system – Financial reporting

17. Project transactions under Component A and B, 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. On a preliminary basis, it has been discussed the need to complement the use of SIGMA with an information tool that allows contract monitoring, recording of project transactions following a more functional classification (component/subcomponent), for further issuance of financial reports and statements of expenditures. Details of the tool and main features still need to be discussed and defined as well as time frame for its implementation.

18. On a preliminary basis and similar to Phase I of PPCR I; 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. However, specific content and format is still subject to definition of an accounting tool Periodicity and timeframe for submission would be confirmed during appraisal.

Processes and procedures

19. 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. Based on the needs of Phase I of PPCR, basic processes and procedures where prepared; however, those need to be revised, and adjusted to the new structure and administrative autonomy granted to the UCP-PPCR. Those adjustments should provide for adequate segregation of duties, as well as clear roles and responsibilities for approval and authorization of payments.

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

Organizational arrangements and staffing

20. Within FPS, the Finance Management Unit will undertake responsibility for financial management tasks through its existing units, Budget and Accounting, Treasury and "*Gestion de Convenios*" at central level, and the Administrative and Finance teams in its deconcentrated Departmental Offices. Roles and responsibilities for Regional and central offices as it relates to financial management are clearly defined, and overall FPS is staffed with experienced and qualified staff with experience in external-financed projects. However, in view of the on-going increase in demands on FPS, there is need to discuss and consider the financing of a 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

21. 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 constitutes a reliable tool for monitoring project financial execution.

Accounting, information system and financial reporting

22. 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 are automatically accrued in SIGMA for subsequent payment through the TSA. Payments recorded in SAP are recorded by project component/subcomponent; and they therefore allow the automated issuance of financial reports covering all sources of financing (external credit and municipal contributions); uses of funds by project component or cost category as needed, and cash balances. Those reports will be also used for this project.

Processes and procedures

23. 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's subproject cycle. FPS operation is supported by SAP (management information system) which has allowed the automation of critical controls that ensure compliance with critical steps, mainly in terms of payment authorization and approval.

SEARPI

Organizational arrangements and staffing

24. Even though SEARPI was created as a decentralized unit of the former *Corporacion Regional de Desarrollo*; from a budgetary perspective it operates as a "*Direccion Administrativa*" within the budget structure of the Regional Government of Santa Cruz. According to its Functions Manual, 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 Units, ii) a Budget and Accounting Unit; and iii) a Procurement unit. The Budgeting and Accounting Unit is staffed with four professionals who undertake responsibility for budgeting, accounting and treasury functions. For project purposes, there is need to define the recruitment of a Financial Management professional, experienced in external financed projects who can strengthen the Administrative Directorate and could undertake specific functions required under the project. Additionally, there is need to discuss and clarify roles and responsibilities within the same Directorate for project purposes.

Programming and Budget

25. SEARPI's budget is recorded as a specific *"Direccion Administrativa"* under the Regional Government's budget. Therefore, budget formulation, and approval; including budget modifications are subject to the RG's regulations. As per existing arrangements, budget

execution will be processed through SINCON, a budget and accounting system, which specific operation needs be reviewed mainly as it relates to internal controls for budget execution.

Accounting – Information system – Financial Reporting

26. Project transactions would be processed and accounted for in SINCOM; that is not connected to the Treasury Single Account (CUT); and therefore payment approved and accounted for would still need the issuance of a check. The use of SINCOM may need to be complemented with an information tool that allows contract monitoring, recording of project transactions following a more functional classification (component/subcomponent), and recording and control of counterpart contributions for further issuance of financial reports and statements of expenditures. Details of the tool and main features still need to be discussed and defined as well as time frame for its implementation.

27. Considering that non-structural subproject to be carried out SEARPI envisage in-ind contributions from different beneficiaries, there is need to define accounting policies and practices for the recording, controls and reasonable valuation of those contributions.

28. While preliminary core content of interim financial reports and annual financial reports has been discussed, specific content is still subject to defining information needs, chart of accounts to be used by SINCOM and the use of any other tool. Periodicity and timeframe for submission would be confirmed during appraisal.

Processes and procedures

29. SEARPI has a detailed Manual of Functions which describes in detail the responsibilities of each position; however, processes and procedures, including internal controls are not formally documented. For project purposes, SEARPI needs to work 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); there is also need to define the minimum internal controls required for the proper recording, control and monitoring of amounts allocated and spent under those activities.

Servicio Departamental de Cuencas - SDC

Organizational arrangements and staffing

30. As a deconcentrated unit of the Regional Government of Cochabamba, SDC's budget is recorded as a specific *Direccion Administrativa* within the budget of the Regional Government's budget. Although some administrative functions have been deconcentrated to SDC; some financial management activities rely on the Regional 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, there is need to discuss and agree on the need to strengthen this unit with and FM

professional with experience in external-financed projects who can support specific task such as financial reporting and preparation of withdrawal applications.

Programming and Budget

31. Project budget will be incorporated as part of the Regional Government of Cochabamba budget under a specific *"Direccion Administrativa"*. Therefore, budget formulation, and approval; including budget modifications are subject to the RG's regulations. As per existing arrangements, budget execution will be processed through SIGEP, an integrated financial management system that has recently been implemented in subnational governments, which specific operation needs be reviewed mainly as it relates to internal controls for budget execution.

Accounting – Information system – Financial Reporting

32. Since budget execution will be processed and recorded in SIGEP; project transactions will be fully integrated and accounted for in the Regional Government's accounting. However, for project purposes, the use of SEGIP may need to be complemented with an information tool that allows contract monitoring, recording of project transactions following a more functional classification (component/subcomponent), for further issuance of financial reports and statements of expenditures. Details of the tool and main features still need to be discussed and defined as well as time frame for its implementation.

33. While preliminary format and content of interim financial reports and annual financial statements has been discussed; it is still subject to definitions in terms of information needs, chart of accounts and additional information tool to be used. Periodicity and timeframe for submission would be confirmed during appraisal.

Processes and procedures

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

Audit arrangements

35. Each one of the implementing entities will provide the Bank with annual audit reports on project financial statements, for their respective components, including management letter. Said reports would be submitted to the Bank, within six months of the end of the Borrower's fiscal year[43] (December 31). The audit should be conducted by an independent audit firm acceptable to the Bank and under terms of reference approved by the Bank. Audit cost would be financed out of credit proceeds and selection would follow standard Bank procedures. The scope of the audit 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

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

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

Flow of Funds and Disbursement Arrangements

36. Following the general practice of the current portfolio, the following disbursement methods may be used to withdraw funds from the credit: (a) reimbursement, (b) advance, and (c) direct payment. Under the advance method and to facilitate project implementation, a Designated Account (DA) in US dollars would be opened and maintained by each implementing entity, UCP-PPCR, FPS, SEARPI and SDC. 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.

37. In keeping with current arrangements established by the Viceministry of Treasury and Public Credit for the operation, and use of a Single Treasury Account in US dollars (CUT-ME)[44], 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.

38. Given the subnational level of SEARPI and SDC, which at the same time are part of Regional Governments, there is still need to review and confirm whether the proposed DA would be opened and maintained in the CUT-ME, or as a separate Special Account in the Central Bank of Bolivia. Wherever the DAs are opened, it is expected that funds from the DA would be withdrawn to a specific bank account in local currency (*cuenta fiscal*) opened and maintained at Banco Union from which payments would be made through the issuance of checks under the name of project beneficiaries.

39. The ceiling for advances to be made into the DA would be determined during appraisal. 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 will be defined in the Disbursement Letter. Being consistent with other projects, FPS would use a customized SOE for municipal subprojects, which are automatically issued from its information system SAP. As it relates to SDC, SEARPI and UCP-PPCR there is still need to define how Statements of Expenditures will be prepared and whether there is need use a customized format.

40. Funds flow mechanisms for participating municipalities to provide their contributions under structural subprojects under the responsibility of DPS are also defined.

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

41. Credit proceeds will be disbursed against the following expenditure categories:

Category	Amount of the Credit Allocated (expressed in USD)	Percentage of Expenditures to be Financed (inclusive of Taxes)
		100%
		100% of the amounts disbursed under the CI Grant Agreements
TOTAL AMOUNT	[]	

Procurement

42. The procurement activities will be carried out by four institutions: a) FPS[45], under the Ministry of Development Planning; b) the UCP-PPCR within the MMAyA created in 2012 to implement phase 1 of the PPCR; c) SDC, formerly PROMIC, established as a decentralized institution of the Cochabamba Departmental Government in 2012, and d) SEARPI established in 1983 as a decentralized institution of the Santa Cruz Departmental Government.

43. The main findings of the procurement capacity assessment carried out in May, June, and October 2012, as well as in February 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). This represents about 48 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 22 per cent of Project total cost), as well as for procurement of Phase 1 of the PPCR until it closes. It has a dedicated junior procurement specialist. Since mid-June 2012, the Ministry delegated to the unit the responsibility for initiating procurement processes and signing contracts which should contribute to effective Project implementation and limit 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

[45] Until April 2013, Government of Bolivia has not made a final decision on the participation of the FPS in project implementation.

conflicts. Up to April 2013, the UCP-PPCR has not been completed with all the adequate staff for the tasks of implementing the PPCR project (phase 2)

(c) SDC and SEARPI will be responsible for the procurement processes of sub-components C1, as well as the procurement processes for the feasibility studies of component C2; which represent about 30 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.

44. Accordingly, the procurement assessment report recommended the following preliminary mitigation measures: (a) preparation of a Project Operational Manual, describing, *inter alia*, procurement and contracting procedures, to be adopted prior to any contracting process start; (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.

40. 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 and the final decision of the government of Bolivia concerning the involvement of FPS or other institution in the implementation of approximately 70% of the project cost including the UCP-PPCR[41]. 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

45. 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 Credit, 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.

46. **Procurement of Works**: Works procured under this project may include the construction of small-scale irrigation systems, small rural infrastructure, etc. International Competitive Bidding (ICB) is not foreseen. Packages amounting to under US$5,000,000 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.

47. **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.

48. 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.

49. **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 $300,000 USD. Shortlists of consultants for services estimated to cost less than US$300,000 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.

50. **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.

51. 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 $100,000 USD shall be advertised in UNDB online. **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.

52. **Force Account:** in component C, 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 sub-projects, will be carried out directly by SDC or SEARPI using, in most cases, NCB or shopping procedures and commercial practices for goods and works. Sub projects 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. **Operating Costs:** The project will finance incremental operational cost of implementing institutions and the operational cost of the UCP-PPCR, including: salaries, travel cost and subsistence for missions of project staff (excluding civil servants); establishment and operation of the monitoring and supervision, technical and financial audits; 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 the Bank's Procurement Guidelines, as appropriate. This procurement also will be carried out using the Bank's SBD or National SBD agreed with the Bank.

53. **Others**: None

54. **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[46].

55. **Procurement Plan.** Due to the nature of the project at this stage there it is not possible to prepare a Procurement Plan The procurement plan will prepared, discussed and agreed between the Borrower and the Project Team within the first six months of project implementation,. 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.

56. **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.

57. Details of the Procurement Arrangements Involving International Competition are as follows:

(a) Goods, Works, and Non Consulting Services

(i) List of contract packages to be procured following ICB and direct contracting:

1	2	3	4	5	6	7	8	9
Ref. No.	**Contract (Description)**	**Estimated Cost**	**Procurement Method**	**P-Q**	**Domestic Preference (yes/no)**	**Review by Bank (Prior / Post)**	**Expected Bid-Opening Date**	**Comments**
	None							

(ii) ICB contracts for **works** estimated to cost above US$5.0 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.

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

(b) Consulting Services:

(i) List of consulting assignments with short-list of international firms.

1	2	3	4	5	6	7
Ref. No.	**Description of Assignment**	**Estimated Cost US$**	**Selection Method**	**Review by Bank (Prior / Post)**	**Expected Proposals Submission Date**	**Comments**
	None					

58. 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	>5,000	ICB	All
	5,000>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)
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

Expenditure Category	Contract Value (Threshold) (US$000)	Procurement Method	Bank Prior Review
			contracts awarded under SSS, and key personnel
	Regardless of value	SSS	All excluding all those activities set forth in the Procurement Plan)
Total value of contracts subject to prior review: US$ 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

59. 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 activated: Environmental Assessment (OP/BP/GP 4.01), Natural Habitats (OP/BP/GP 4.04), Physical Cultural Resources (OP/BP 4.11)[47], Forests (OP/BP/GP 4.36). Safety of Dams (OP/BP 4.37)[48], and Pest Management (OP/BP 4.09)[49]. Given that location and type of subprojects are still unknown, an Environmental Management Framework (EMF) was prepared by the Borrower. It was consulted, reviewed by the Bank and disclosed before Project appraisal. The EMF provides for systematic supervision, technical assistance and strengthening of capacities to manage environmental safeguards as appropriate.

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:

Typology of environmentally related risks by type of subprojects

Project Component	Subproject Type	Risk
C1. Infrastructure (structural 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

[47] 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.

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

[49] 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.

Project Component	Subproject Type	Risk
		safety issues • Negative environmental impacts associated 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 • Workers and beneficiaries safety issues • Negative environmental impacts associated solid and liquid wastes generated in ancillary facilities and machinery camps.
Component C2. MIC 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 • Damage to physical cultural resources

60. The EMF describes the responsibilities and tasks of the implementing agencies to comply with environmental safeguards during the 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.

61. 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)

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[50] 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**

62. 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.

63. 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 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.

64. 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. 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 regional level aimed at Sub-component B.2 (formulation of river basin plans), and at the local level aimed at Component C (subprojects).

65. 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 other social grouping; they live dispersed in the basin and maintain relationships with the

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

mestizo population known as *camba*, a gentile by which the people in the region 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.

66. 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 before Project appraisal.

67. 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.

68. 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.

69. 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

70. The UCP-PPCR will have overall responsibility for Project monitoring and evaluation (M&E). MOP 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..

71. 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.

72. 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)

73. 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[51]. 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.

[51] 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: Bolivia Climate Resilience - Integrated Basin Management (P129640)

Stage: Appraisal

<table>
<tr><th colspan="7">1. Project Stakeholder Risks</th></tr>
<tr><td>1.1 Stakeholder Risk</td><td>Rating</td><td colspan="5">Moderate</td></tr>
<tr><td rowspan="4">Description:

Borrower/Government Relations:
(a) Chronic instability at high levels of Government and high staff turnover in public institutions may generate uncertainty in the sustainability of government's commitment to the project and/or delays in its implementation. The possibility that a new Ministry of Mother Earth might be created might exacerbate those risks. Moreover, Bolivia has taken a hard line at the UN climate change negotiations, being the only country to reject the Cancun agreement. On the other hand the Government demonstrated strong interest and commitment to the SPCR sending two Ministers (Planning and Environment) to Washington in November to present their SPCR and seek donor endorsement. The SPCR program presented was praised by the donors community.</td><td colspan="6">Risk Management:

(a) The Bank strives to build good and constructive relationships with the relevant counterparts of the Project in the Ministries of Planning and Environment, as well as the decentralized institutions concerned. This is critical in order to remain informed of new or potential changes and anticipate their impact on the Project.</td></tr>
<tr><td>Resp: Bank</td><td>Stage: Preparation</td><td>Recurrent: ☐</td><td>Due Date:</td><td>Frequency:</td><td>Status: In Progress</td></tr>
<tr><td colspan="6">Risk Management:

(b) It was agreed with the donors groups on climate change and water that the Bank will continue organizing a donors workshop at the beginning of each of its mission, in particular to share relevant information and identify potential collaboration opportunities. Moreover, it was agreed with IADB that a joint mission will be organized at least once a year.</td></tr>
<tr><td>Resp: Bank</td><td>Stage: Preparation</td><td>Recurrent: ☐</td><td>Due Date:</td><td>Frequency:</td><td>Status: In Progress</td></tr>
<tr><td colspan="6">Risk Management:

(c) The project will follow a participatory approach to river basin planning and to the identification, financing and O&M 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</td></tr>
</table>

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 SPCR. Some tensions between the Bank and other donors might develop if we are taking the leadership in those sectors and/or we do not coordinate on similar activities and therefore do not support the same approach. Direct/Indirect Beneficiaries and civil society views: (c) The formulation of the SPCR, that led to the identification of this project, 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. Further consultations will take place as part of the social studies during project preparation. They should identify potential issues that stakeholders may have with project design and improve project design accordingly. 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 among various competing users, including dealing with impacts from upstream users or on downstream users.	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.					
	Resp: Client	Stage: Both	Recurrent: ☐	Due Date:	Frequency:	Status: In Progress

Bank financed activities could be perceived as biased towards one category of users or detrimental to another.						

2. Operating Environment Risks						
2.1 Country	Rating	Substantial				
Description: Political Context: (a) The Government has been prone to reversing a number of decisions due to social unrest that has also triggered tension within the ruling party. Transparency/Fraud and Corruption: (b) A legal framework to prevent and penalize corruption with strong penalties is having an undesired impact on public officials, who have tended to avoid or slow down decision-making. (c) Coca leaf cultivation has increased in Bolivia. Institutional Setting: (d) There is weak institutional capacity in public sector entities and wages are low to attract and retain highly skilled officials. As a consequence, staff turnover is high and capacity building efforts are not sustainable. (e) The responsibilities of different Government levels need to be better defined and coordination among them remains weak. The recently approved Autonomies Law has not clarified the responsibilities of different levels of government and has left contentious issues unresolved, such as the distribution of	**Risk Management:** (a) The Government now needs to negotiate more to create consensus among affected groups in order to pass and implement public policies. The river basin planning process in the two sub-basins of Pirai and Mizque will follow a strong participatory process taking special care to involve vulnerable groups and women.					
	Resp: Client	Stage: Implementation	Recurrent: ☐	Due Date:	Frequency:	Status: In Progress
	Risk Management: (a) The Bank works towards a sound application of safeguard policies in each operation, which includes consultations with potential beneficiaries and affected groups. This will apply to the river basin planning process and to the implementation of subprojects.					
	Resp: Both	Stage: Both	Recurrent: ☐	Due Date:	Frequency:	Status: In Progress
	Risk Management: (b) Implementation arrangements are being designed in a way to minimize administrative delays through: (i) the reliance on a newly established, financially and administratively autonomous PPCR coordination unit (UCP-PPCR), reporting directly to the Minister of Water and Environment, to implement the Project; (ii) the reliance on FPS for the implementation of structural subprojects in the pilot areas; and (iii) the selection of Mizque and Pirai sub-basins where relatively well run institutions already exist with the mandate for basin management (SDC - formerly PROMIC - and SEARPI); institutions that in additional have experience implementing donor projects.					
	Resp: Client	Stage: Preparation	Recurrent: ☐	Due Date:	Frequency:	Status: In Progress
	Risk Management: (c) The pilot sub-basins were selected on the condition that they were not coca growing areas.					

fiscal resources. Formal coordination mechanisms between different government levels are not in place, making the implementation of projects that are generally designed at the central level but implemented at the sub-national one (Departments) difficult. In addition, the failure to improve the capacity of Departments and other levels of authority could also pose risks, especially in terms of financial management. Fiduciary management: (f) Public Financial Management systems in Bolivia have been strengthened with the expansion of the integrated financial management system (SIGMA), and the implementation of a Treasury Single Account (TSA). However, there are still weaknesses in budget formulation and execution, as it relates to internal control, internal audit functions in addition to limited legislative scrutiny of budget bills and external auditing.	Resp: Client	Stage: Preparation	Recurrent: ☐	Due Date:	Frequency:	Status: Completed
	Risk Management: (d) See section 3.1					
	Resp: Client	Stage: Preparation	Recurrent: ☐	Due Date:	Frequency:	Status:
	Risk Management: (e) Inter-institutional agreements will be established between the Ministry of Water and Environment, FPS, SEARPI and SDC making clear what are the responsibilities of each party. The departmental governments of Cochabamba and Santa Cruz are among the most competent departments in the country. The relationships between SDC, SEARPI and the Ministry are good and SEARPI is already benefiting from projects financed by donors (flood protection project financed by CAF) without incurring any delays.					
	Resp: Client	Stage: Preparation	Recurrent: ☐	Due Date:	Frequency:	Status:
	Risk Management: (f) Project implementation will benefit from the use of SIGMA and TSA (CUT), as well as those well-functioning PFM elements supplemented by additional arrangements –mainly in relation to internal processes and procedures, financial reporting and auditing– to respond to Project needs. For subnational implemented entities (SDC and SEARPI), existing arrangements would be strengthened as needed.					
	Resp: Client	Stage:	Recurrent: ☐	Due Date:	Frequency:	Status:
2.2 Sector and Multi-Sector	Rating	Moderate				
Description: Ownership and Commitment: (a) Institutions in charge of environmental policies have limited capacity and inter-institutional coordination is difficult. Monitoring of environment-related variables has not been carried out in a systematic way, and environmental	**Risk Management:** (a) The implementation of Bank safeguard policies is increasing the awareness of environmental care in public institutions in charge of the preparation and execution of Bank-financed projects. The project itself will trigger a number of social and environmental safeguards: the design of the safeguards instruments during project preparation and their application during project implementation will be carefully monitored.					
	Resp: Bank	Stage: Preparation	Recurrent: ☐	Due Date:	Frequency:	Status: In Progress

assessment is scarce. Roles, responsibilities, decision-making and coordination mechanisms: (b) The lack of a coordination and decision mechanism between key sectors has hampered the process of adaptation to climate change. In particular, the main institution intended to generate inter-institutional coordination on the issue of climate change (PNCC) has been ineffective. (c) Furthermore, there is little collaboration between central institutions and local institutions who are wary of sharing information.	**Risk Management:** (b) The UCP-PPCR was created as a financially and administratively autonomous unit in charge of coordinating PPCR activities, that reports directly to the Minister of Water and Environment. As a result, this unit will be in a better position than PNCC to address multisectoral issues. Through the project, the multisectoral approach required to address climate change issues will be introduced at the river basin level (the two pilots and the river basin planning methodology that is being developed for replication in other basins) and at the national level (integration of climate resilience considerations in guidelines for irrigation projects pre-investment studies).

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

Risk Management:

(c) One of the project's main objectives is to strengthen coordination and cooperation between institutions implicated in the collection, generation and dissemination of climate change and water related data and information, be it national or local institutions with a critical role in development and planning.

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

3. Implementing Agency (IA) Risks (including Fiduciary Risks)

3.1 Capacity	Rating	Substantial
Description: (a) While FPS (in charge of structural subproject) is a well-established entity which has in place solid operating arrangements, the general lack of institutional capacity in public entities would prevent MMAyA to put in place proper processes and systems, and attract and retain qualified project staff, in particular for fiduciary responsibilities (financial management, procurement, etc SEARPI and SDC do not have experience	**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. SEARPI, SDC and FPS have competent staff that is apparently not too affected by staff turn-over. 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. (b) Project implementation will benefit from the existing arrangements in FPS. Additionally, based on the financial management capacity assessment, specific strengthening measures are being discussed with MMAyA for UCP-PPCR as well as SEARPI and SDC; including issues related to internal processes and procedures, information systems, financial reporting and flow of funds.

with WB policies and procedures; however, they have in place basic arrangements that may need to be strengthened. To some extent, FM arrangements may need to be coordinated with respective Regional Governments. (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 (such as in the case of the implementation of phase 1).	Resp: Client	Stage: Preparation	Recurrent: ☐	Due Date:	Frequency:	Status: In Progress	
	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.						
	Resp: Client	Stage: Preparation	Recurrent: ☐	Due Date:	Frequency:	Status: In Progress	
3.2 Governance	Rating	Moderate					
Description: Ownership, commitment and decision-making: (a) Though the new PPCR coordination unit (UCP-PPCR) has been created under the Minister of Environment and Water and designated as the IA of the project, this unit has not been fully staffed, nor fully decentralized yet. (b) There is a predominance of ad-hoc, political decisions over informed technical decisions and difficult coordination among ministries. In this context, the new coordination unit will have to quickly build capacity and ascertain its position as the main implementing agency that will coordinate with powerful ministries such as the Ministry of Development Planning (MPD), as well as local institutions.	**Risk Management:** (a) The UCP-PPCR's creation is mandated by the SPCR and will be the trustee of the Government's commitment to Climate Resilience towards the donor community, and its decentralization is critical if it is to fulfill its role. The Government should accelerate this process.						
	Resp: Client	Stage: Preparation	Recurrent: ☐	Due Date:	Frequency:	Status: In Progress	
	Risk Management: (b) The UCP-PPCR should by definition 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.						
	Resp: Client	Stage: Preparation	Recurrent: ☐	Due Date:	Frequency:	Status: In Progress	

Fraud and Corruption	Rating	Substantial				
Description: (a) Political considerations could also interfere in the bid process and the contracts execution. Moreover, the risk of collusion between bidders in the procurement of goods and works may create implementation bottlenecks and reputation risk to the project agencies. Cases of fraud, such as the falsification of bid and contract guarantees/bonds, were identified recently in Bolivia in the context of procurement of works and goods.	**Risk Management:** (a) 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) providing detailed guidance on the Bank's fiduciary policies. Also, a Governance and Accountability Action Plan will be developed.					
	Resp: Bank	Stage: Implementation	Recurrent: ☐	Due Date:	Frequency:	Status: Not Yet Due

4. Project Risks

4.1 Design	Rating	Substantial				
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) Project design requires coordination of	**Risk Management:** (a) The institutions will be strengthened by improving staff capacity in handling new technologies through training and working closely with consultants. Staff members include graduate young people able to adopt new technologies if a training process is carried out. Some activities will be carried out by international consultants, such as the generation of downscaled climate change scenarios.					
	Resp: Client	Stage: Implementation	Recurrent: ☐	Due Date:	Frequency:	Status: Not Yet Due
	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 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: Bank	Stage: Implementation	Recurrent: ☐	Due Date:	Frequency:	Status: Not Yet Due

four implementing entities (UCP-PPCR, FPS, SDC and SEARPI) of different level and nature,; and the need to involve/interact with related Regional Governments. (d) In addition, there is a 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.	**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. The relationships between SEARPI or SDC and the Ministry are good and they are already benefiting from projects financed by donors.
	Resp: Bank | Stage: Preparation | Recurrent: ☐ | Due Date: | Frequency: | Status: In Progress
	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: Client | Stage: Implementation | Recurrent: ☐ | Due Date: | Frequency: | Status: Not Yet Due
	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: Bank | Stage: Preparation | Recurrent: ☐ | Due Date: | Frequency: | Status: In Progress
4.2 Social and Environmental	Rating: Low
Description: Environmental: (a) Lack of a project's environmental baseline and incomplete	**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.
	Resp: Client | Stage: Imple | Recurrent: ☐ | Due | Frequency | Status: Not

<table>
<tr><td rowspan="3">understanding/knowledge of environmental degradation processes and interactions among them might undermine any effort to design and implement proper structural and non-structural measures 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></td><td>mentation</td><td></td><td>Date:</td><td>:</td><td>Yet Due</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>Stage: Preparation</td><td>Recurrent: ☐</td><td>Due Date:</td><td>Frequency :</td><td>Status: In Progress</td></tr>
<tr><td>4.3 Program and Donor</td><td>Rating</td><td colspan="5">Low</td></tr>
<tr><td rowspan="3">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.</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.</td></tr>
<tr><td>Resp: Bank</td><td>Stage: Implementation</td><td>Recurrent: ☐</td><td>Due Date:</td><td>Frequency :</td><td>Status: In Progress</td></tr>
<tr><td>4.4 Delivery Monitoring and Sustainability</td><td>Rating</td><td colspan="5">Moderate</td></tr>
</table>

<table>
<tr><td>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>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.

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

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.

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

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 resilient 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.

Resp: Client | Stage: Implementation | Recurrent: ☐ | Due Date: | Frequency: | Status: Not Yet Due</td></tr>
<tr><td>4.5 Other (Optional)</td><td>Rating | Low</td></tr>
<tr><td>Description:</td><td>Risk Management:

Resp: | Stage: | Recurrent: ☐ | Due | Frequency | Status:</td></tr>
</table>

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

5. Project Team Proposed Rating Before Review	
Preparation Risk Rating: **Moderate**	**Implementation Risk Rating:** **Substantial**
Description: Risks during project preparation are moderate. There is strong interest from the Government in getting the very concessional resources from the PPCR and allocation of resources have already been endorsed by the CIF committee. Coordination with IADB and other donors is good. There is slight risk of delays in the project preparation timetable if a new Ministry of Mother Earth is created. There is a moderate risk of delays in the project preparation timetable if the social and environmental safeguard studies do not start in the coming weeks.	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.

6. Overall Risk	
Preparation Risk Rating:	**Implementation Risk Rating:**
Description:	Description:

Nondisclosable Information for Management Attention (Optional)
Comments:

Annex 5: Implementation Support Plan

The Implementation Support Plan (ISP) 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 advice 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 throughout UCLs. 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.

Fiduciary: The Bank would provide timely support through periodic supervision during project implementation. These specialists would: (i) assist UCP-PPCR and UCLs, 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 and UCLs 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 VCP-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/COSUDEwill 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**	**Comments**
Task Team Leader, Water Resources Management Specialist	8	*3*	HQ -based
Co-TTL Bolivia based	10	4	CMU –based, but needs to visit the departments
Co-TTL junior	15	2	Country office – based, but

Bolivia Based			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	2	Lima Office
Social Specialist	2	2	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/ COSUDE/JICA	*Both institutions are working in the sector and are financing activities in the region 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 su-basins of the Rio Grande, focusing on strengthening the capacity of participation mechanisms, building the capacity of SDC and identifying subprojects.*