

# PROJECT INFORMATION DOCUMENT (PID) CONCEPT STAGE

Report No.: PIDC929

<b>Project Name</b>	Andes Adaptation to the Impact of Climate Change in Water Resources (P145345)
<b>Region</b>	LATIN AMERICA AND CARIBBEAN
<b>Country</b>	Andean Countries
<b>Sector(s)</b>	General water, sanitation and flood protection sector (36%), General agriculture, fishing and forestry sector (27%), General public administration sector (21%), Water supply (12%), Forestry (4%)
<b>Theme(s)</b>	Climate change (67%), Biodiversity (33%)
<b>Lending Instrument</b>	Specific Investment Loan
<b>Project ID</b>	P145345
<b>Focal Area</b>	Multi-focal area
<b>Borrower(s)</b>	Secretaria General de la Comunidad Andina
<b>Implementing Agency</b>	Secretaria General de la Comunidad Andina
<b>Environmental Category</b>	B-Partial Assessment
<b>Date PID Prepared/ Updated</b>	15-Apr-2013
<b>Date PID Approved/ Disclosed</b>	19-Apr-2013
<b>Estimated Date of Appraisal Completion</b>	19-Mar-2014
<b>Estimated Date of Board Approval</b>	12-May-2014
<b>Concept Review Decision</b>	Track II - The review did authorize the preparation to continue

## I. Introduction and Context

### Country Context

The proposed project is a regional operation which will include, as beneficiaries, the countries of Bolivia, Colombia, Ecuador and Peru. These Andean region countries constitute a unique group of nations who share a strong historical past, an inter-related present, and a challenging future. They are amongst the short list of megadiverse countries in the world, with critical ecosystems that span over regions and frontiers – the Andean glaciers, paramos (high-altitude moors) and high-mountain forests, the valleys, the Amazon basin. Their economies rely significantly on renewable and non-renewable natural resource-based wealth (oil, gas, mining, and also banana, cocoa, coffee, palm oil and others).

These countries share a similar –yet distinct– geography and ecology, and face a number of climate-change induced threats, such as warmer temperatures, uneven rainfall cycles, intensified El Niño events, and more severe natural extremes. The four countries have dramatic topography, with unique basins that span from the heights of glaciated mountains (all countries have peaks at over 4,600 meters above sea level), some of which rapidly descend towards the lowlands along the Pacific coast to the West and the Amazon to the East. The implications of upstream activity of these steep basins are large for many of the ecosystems and economies that depend upon them.

A critical threat to these ecosystems and economies is imposed by climate change, which is causing accelerated glacier melt (a 25% loss on glacier surface area is a commonly quoted average for Andean tropical glaciers over the past 30 years), and increasing the likelihood and intensity of extreme weather events (droughts and devastating wildfires in Ecuador 2012, severe floods in Colombia 2010-2011, floods and landslides in the Cuzco region of Peru 2011 to name but a few).

The four countries are the members of the Andean Community of Nations (CAN in Spanish), a supra-national organization that aims at promoting the integration of Andean countries in a number of areas such as employment promotion, a common regional market, promotion of integrated development or quality of life improvement amongst member countries. The Andean countries have been consolidating their relations as an integrated region, and CAN has taken as a core objective to promote harmonic and balanced development of its member countries, with equality and through social and economic integration. It has also taken a leadership role in promoting environmental sustainability and protecting biodiversity.

### **Sectoral and Institutional Context**

Although the global community is devoting its efforts to holding warming below 2°C to prevent “dangerous” climate change, current policies—in place and pledged— will very likely lead to warming far in excess of this level, with some plausible scenarios, based on present emission trends, putting the world on a path toward 4°C warming within this century. Whereas the whole Latin America and the Caribbean region is responsible for slightly over 10% of the greenhouse gas emissions globally (with Brazil and Mexico at the forefront), it is subject to some of the greatest impacts, especially in countries and regions with less capacity to adapt their economies, institutions and population to the challenges lying ahead.

Anticipated impacts for the Andean region look severe, with unprecedented high-temperature extremes in the tropical areas that will consequently lead to significantly larger impacts on agriculture and ecosystems, increases to the El Niño phenomenon (which basically intensifies precipitation and flood likelihood), and increased aridity and drought conditions in tropical and subtropical areas with consequent impacts on energy generation.

Under these scenarios, it becomes crucial for Bolivia, Colombia, Ecuador and Peru to strengthen their adaptation capacity to cope with increased climate variability and climate change, taking informed decisions and actions today that will better prepare them for the climate of the (near) future. The key element on the discussion is water. The water cycle is changing, with glaciers receding dramatically on the Andean cordillera, more severe downpours followed by longer dry seasons, and varying evapotranspiration conditions, all of which alter the water balance of any given basin and challenge the economies and ecosystems that are built around them.

Traditionally, water has been managed, as many other issues, using the political sub-divisions

within countries. However, water basins often do not follow those divisions, and the complexity of dealing with inter-regional management of the resource has hindered the full adoption of integrated water resources management practices.

The context on each of the four participating countries on this topic varies. Bolivia does not have an integrated approach, with competencies being transferred to municipalities. Colombia has adopted a basin approach through the recently approved National Water Law, out of which some specific basin management plans have already been prepared. Ecuador is promoting efforts to adopt an integrated basin approach, however the national water law is outdated and is being hard to update. Finally, in Peru, the National Water Authority, created in 2008, has the mandate to promote integrated water management and has distributed the country around basins, as mandated by the National Water Law approved in 2009.

The four countries have been very active in recent years in promoting adaptation to climate change, and have been leading the agenda world-wide with ground breaking projects counted among the first of their kind with real on the ground investments. The GEF-funded, Bank-implemented Integrated National Adaptation Project in Colombia, and the Regional Adaptation to the Impacts of Rapid Glacier Retreat in the Tropical Andes (PRAA) project in Ecuador, Bolivia and Peru, are good examples of the above.

In this context, there is an important window of opportunity to continue working on climate change adaptation in the region, given all the upstream work and interest, and spearhead a new level of engagement on which lessons learnt in previous activities are raised to the level at which they can influence the national level. The proposed project will undertake the challenge to improve integrated water resources management, calling for holistic interventions that promote a more efficient use of the resource that also takes into account future variability. The integrated approach also requires that sectors such as water supply, agriculture, energy generation and biodiversity –to name but a few– become part of the equation. Sector policies and interventions in those fields, traditionally developed under a “business-as-usual” lens, would therefore benefit from the inclusion of climate change considerations in their formulation and implementation.

Despite the many common challenges, each country has traditionally worked within its own borders and prioritizing the pressing needs they encounter every day. The aforementioned PRAA project stands as one of the first initiatives under which these countries have started sharing knowledge on climate change modeling and science, vulnerability assessments, and lessons learned from adaptation activities. Still, there is a big, almost untapped opportunity to use the Andean system of integration as a platform that consolidates these efforts of the PRAA and creates knowledge and facilitates exchange amongst its members, becoming a huge laboratory on which different approaches and policy mechanisms can be tried and replicated elsewhere.

The Bank is also an active partner working in the region in sectors related to water resources, and one of the current key strategic areas of expansion for the Bank program is the inclusion of resilience throughout the agenda. Several of the Bank's investments in the region are focused towards development goals, and the proposed project will also aim at strengthening the climate resilience lens to those that require it. There is more information on background projects in Annex 1.

## **Relationship to CAS**

The project as a whole supports the different work programs that the Bank and each country have agreed.

In Bolivia, the so-called Results Area 2 within the Country Partnership Strategy (CPS) is specifically devoted to Climate Change and Disaster Risk Management, mentioning the high vulnerability of the country to natural disasters and climate change phenomena such as floods, droughts and glacier retreat, which in turn affect water supply, water management, irrigation systems, hydropower generation and transportation infrastructure, which are the sectors considered by this project. The CPS further mentions the PRAA project and Bank's commitment to continue addressing climate change risks and to continue looking for trust fund opportunities.

In Colombia, the CPS talks explicitly about “Sustainable Growth with Enhanced Climate Change Resilience” as one of the main pillars of high-priority involvement with the Bank, and also mentions the need to pursue better integration of environmental principles in sectoral policies, an objective that the present project is addressing.  
significantly high environmental footprint, unless environmental factors are considered in their expansion plans.

In Ecuador, the Interim Strategy Note (ISN) includes this proposed project explicitly as a priority in the list of engagements with the Government. The project falls squarely on the ISN's pillar number one of the three cooperation priorities with GoE, “Sustainable and Inclusive Growth whose main objective is to better manage and protect Ecuador's natural resources and biodiversity; and to support the development of strategic sectors and enhance their efficiency for Ecuador's inclusive and sustained growth”.

Within Peru's third CPS main pillar, “sustainable growth and productivity”, there is a Results Area (number 3.3) which specifically mentions that “The Government and the WBG are exploring cooperation options to address environmental vulnerabilities and the impact of climate change”. This project is contributing to that, and also to other main results such as the one on sustainable rural development and water resources management.

The proposed project is also fully aligned with the National Communications of the participating countries to the UNFCCC, and builds on their national adaptation plans, as further reflected in Annex 1. For the proposed use of Ecuador biodiversity funds within component 3, it is fully aligned with the country's National Biodiversity Strategy and Action Plan, as explained in Annex 2.

## **II. Proposed Global Environmental Objective(s)**

### **Proposed Global Environmental Objective(s) (From PCN)**

The project has been designed to tackle the challenge of adaptation to climate change on selected sectors from a technology transfer, knowledge exchange and regional collaboration angle. Based on previous experience in the region, the project will select those technologies and approaches that have been proved valid elsewhere and try to adapt and replicate them in the other countries, according to the special needs and gaps of each one of them.

Specifically, the proposed objective of this project is to generate tools and knowledge to enable governments to promote resilient management of their water resources through the inclusion of

climate change impacts into policy, planning and on the ground investments on selected sectors, and to promote south-south learning, collaboration and technology transfer.

### **Key Results (From PCN)**

- Generation of new data and scientific information on impacts of climate change on the water cycle for selected basins. This will be measured by the number of publications on scientific media.
- Generation of new data and scientific information on the relationship between paramo ecosystems, water cycle, and predicted climate change impacts. Measured through number of publications on scientific media.
- Review of national sectoral policies related to water (agriculture, water supply, ecosystem management, others) and generation of suggestions that would increase the promotion of integrated management, efficiency and increased adaptation capabilities. Measured through the number of policies that are reviewed and number of improvement suggestions submitted to relevant bodies for consideration.
- Integrated water management plans, with climate change considerations, adopted or strengthened, with selected investments on relevant sectors successfully realized.
- Increased technology and knowledge transfer between the four participating countries. Measured through the number of events and study trips successfully conducted by the project.

## **III. Preliminary Description**

### **Concept Description**

The GEF SCCF-funded “Regional – Adaptation to the Impact of Rapid Glacier Retreat in the Tropical Andes Project - PRAA” can be considered as the antecessor of this proposed new project. PRAA has been active since 2008, implemented by the Andean Community of Nations on behalf of Bolivia, Ecuador and Peru, and has successfully showcased pilot adaptation projects and strategies. The project is being successful in achieving its objectives, and participating countries have owned and led the process from the beginning. It will be closed during 2013, and is currently being evaluated following GEF’s requirements. However, the magnitude of the climate change problem is large, and PRAA has only started to address the issues, create links and propose some pilot-scale solutions. Given the ever-growing needs of the region to better prepare for climate change impacts, and the positive experience gained with PRAA, these adaptation efforts must continue, and the created knowledge, methodologies and piloted technologies in other regions and areas must be transferred and expanded. The focus of the proposed project is adaptation within the hydrological cycle, and how that relates to critical ecosystems and to livelihoods.

The new proposed project will gather lessons learnt through PRAA in order to better inform nationwide policies and strategies that promote climate change resilience, improved efficiency in the use of resources, and better stewardship of critical ecosystems. It will also build on the work done in Bolivia through the Pilot Project on Climate Resilience.

A proposed structure of the project, which will be revisited and refined during preparation, would be:

Component 1. Generation and exchange of knowledge, technology transfer and institutional strengthening (US\$0.8M GEF SCCF indicative)

This component will, among other things: (i) review the climate projections and techniques used in each country; (ii) promote their exchange and cross-learning; (iii) continue to develop better defined climate change impact modeling on priority sectors; (iv) implement monitoring systems aimed at measuring the effectiveness and sustainability of national and regional adaptation initiatives; and (v)

knowledge exchange on climate change adaptation experiences in the region, diffusion of lessons learnt, and studies to understand the replication capacity of those experiences on each participating country.

**Component 2. Mainstreaming of climate change considerations into policies, strategies and programs (US\$0.75M GEF SCCF indicative)**

This component will be focused on: (i) review and inclusion of climate change variables into national and sectoral policy, ensuring inclusion of best practices and their influence on sectoral development plans; (ii) definition of a methodology useful to ensure the inclusion of climate change concerns during design and implementation of plans, programs and projects at national and sectoral scales; and (iii) contribute to the elaboration of National Adaptation Plans, and their intersection with the objectives and strategies included within the Andean Environmental Agenda.

**Component 3. Design and implementation of adaptation measures in priority sectors (US\$ 6M SCCF indicative plus 1.24M GEF Biodiversity for Ecuador indicative)**

This component will finance both soft and hard climate adaptation investments at the watershed level, and it will include activities such as: (i) design and implementation of adaptation measures, on selected sectors, that incorporate technologies and approaches that have proven to work elsewhere and contribute to the increased resilience of the sector (which could include, inter alia, water supply, energy generation, food security, agriculture or biodiversity management);

There will be a specific component for Ecuador, using GEF biodiversity funds, and focused on mainstreaming information on climate change impacts into selected sectoral policy, for sectors that have an impact on the integrity of paramo and montane ecosystems. Detailed information on the rationale and justification for these biodiversity funds is offered in Annex 2. The expected outcome is to achieve more resilience and sustainability on High-Andean ecosystem and biodiversity management in selected production landscapes in Ecuador, through the mainstreaming of anticipated water sector climate change impacts into policy, planning and selected on the ground interventions.

**Component 4. Project Management, Monitoring and Evaluation (US\$1M SCCF indicative)**

The component will create and strengthen a project executing unit at the “Secretaria General de la Comunidad Andina”, SGCA. The possibility to create national executing teams, with implementation capacity, will be determined during project preparation. It will also provide for the necessary monitoring and evaluation of project tasks.

#### IV. Safeguard Policies that might apply

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>	<b>TBD</b>
Environmental Assessment OP/BP 4.01	✘		
Natural Habitats OP/BP 4.04	✘		
Forests OP/BP 4.36	✘		
Pest Management OP 4.09			✘
Physical Cultural Resources OP/BP 4.11	✘		
Indigenous Peoples OP/BP 4.10	✘		
Involuntary Resettlement OP/BP 4.12			✘
Safety of Dams OP/BP 4.37			✘

Projects on International Waterways OP/BP 7.50			x
Projects in Disputed Areas OP/BP 7.60		x	

## V. Financing (in USD Million)

Total Project Cost:	30.79	Total Bank Financing:	0.00
Total Cofinancing:		Financing Gap:	0.00
<b>Financing Source</b>			<b>Amount</b>
BORROWER/RECIPIENT			21.10
Global Environment Facility (GEF)			9.69
Total			30.79

## VI. Contact point

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