

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BOLIVIA

**CONSERVATION AND SUSTAINABLE USE OF
LAND AND ANDEAN VERTICAL ECOSYSTEMS**

(BO-X1001)

GRANT FINANCING PROPOSAL

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1.	Monitoring and evaluation plan http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35039393
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3.	Annual work plan (AWP) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35182095
4.	Environmental and social strategy http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1668364
OPTIONAL	
1.	Work plan for the first disbursement and the first 18 months of implementation http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35064151
2.	Safeguard Screening Form for classification of projects (SSF) http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35077020
2.	Risks matrix http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35063598
3.	Maps http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35039470
4.	Technical and design options http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35039467
5.	Botanical and zoological studies http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35039428 http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35039404

6. Institutional assessment and strengthening proposal
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35039408>
7. Social and anthropological study (Spanish only)
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35039448>
8. Climate change impact analysis
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35039437>
9. GEF tracking tool
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35039411>
10. Itemized budget
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35063416>
11. Results of the institutional assessment
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=35059693>

ABBREVIATIONS

CRIAR	Creación de Iniciativas Alimentarias Rurales [Creation of Rural Agrifood Initiatives]
EVAs	Ecosistemas verticales andinos [Andean vertical ecosystems]
GEF	Global Environment Facility
GIS	Geographic information system
ICAS	Institutional Capacity Assessment System
MMAyA	Ministry of Environment and Water Resources
PDMI	Parcelas demostrativas de manejo integral [integrated management demonstration plots]
PEU	Project execution unit
PGTI	Plan de gestión territorial indígena [indigenous territorial management plan]
PMOT	Plan municipal de ordenamiento territorial [municipal land-use plan]
SENAMHI	National Meteorology and Hydrology Service
SIAP	Visual Accounting System
UNDP	United Nations Development Programme

PROJECT SUMMARY

BOLIVIA

CONSERVATION AND SUSTAINABLE USE OF LAND AND ANDEAN VERTICAL ECOSYSTEMS (BO-X1001)

Financial Terms and Conditions		
Beneficiary country: Plurinational State of Bolivia		
Direct beneficiaries: Local communities and their traditional organizations (ayllus) in northern and southern Oruro		
Executing agency: Ministry of Environment and Water Resources (MMAyA)		
Duration: 5 years	60 months	
Currency: United States dollars	US\$	
Source	Amount	%
IDB (Grant, Global Environment Facility (GEF))	US\$6,000,000	42.7%
Counterpart:	US\$8,050,000	57.3%
IDB (loan 2223/BL-BO-CRIAR)	US\$7,570,475	
MMAyA	US\$479,525	
TOTAL:	US\$14,050,000	100.0%
Project at a Glance		
Objectives of the project: The purpose of this project is to promote the conservation of agrobiodiversity and the sustainable use of soil and water in Andean vertical ecosystems (EVAs), whose endangered native species and plants play a role in the food security of the ayllu of northern Potosí and southeastern Oruro. Its expected outcome is to demonstrate that the ayllu model of adaptive management promotes conservation of agrobiodiversity and sustainable use of soil and water in integrated management demonstration plots (PDMIs) located in EVAs, and that this model is used in municipal territorial planning and family agriculture in the area. The project will help raise awareness of traditional local soil and water conservation practices and disseminate them among beneficiaries of other agricultural development projects, in particular the Creation of Rural Agrifood Initiatives (CRIAR) project, which will be implemented in coordination and conjunction with this project.		
Special contractual clauses: As a condition precedent to the first disbursement of the Bank loan proceeds, the executing agency will provide: (i) the Operations Manual, approved by the Ministry of Environment and Water Resources (MMAyA) with the Bank's no objection (see paragraph 2.6); (ii) evidence that the Steering Committee has been formally established, and its members appointed by ministerial resolution of the MMAyA (see paragraph 3.2); (iii) participation agreements signed by at least three ayllus, pursuant to the model prepared by the MMAyA and approved by the IDB (see paragraph 3.3); and (iv) evidence that the project execution unit (PEU) has been formally established (see paragraph 3.4), and that the technical director, procurement specialist, and administration and finance specialist have been contracted, in accordance with IDB procedures (see paragraph 3.4).		
Exceptions to Bank policies: None.		
Project consistent with country strategy: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Project qualifies as: SEQ <input type="checkbox"/> PTI <input checked="" type="checkbox"/> Sector <input type="checkbox"/> Geographic <input checked="" type="checkbox"/> Headcount <input checked="" type="checkbox"/>		
Procurement: Works, goods, and consulting services will be procured in accordance with IDB procurement policies, based on documents GN-2349-7 and GN-2350-7 (see paragraph 3.6).		

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problem addressed, and rationale

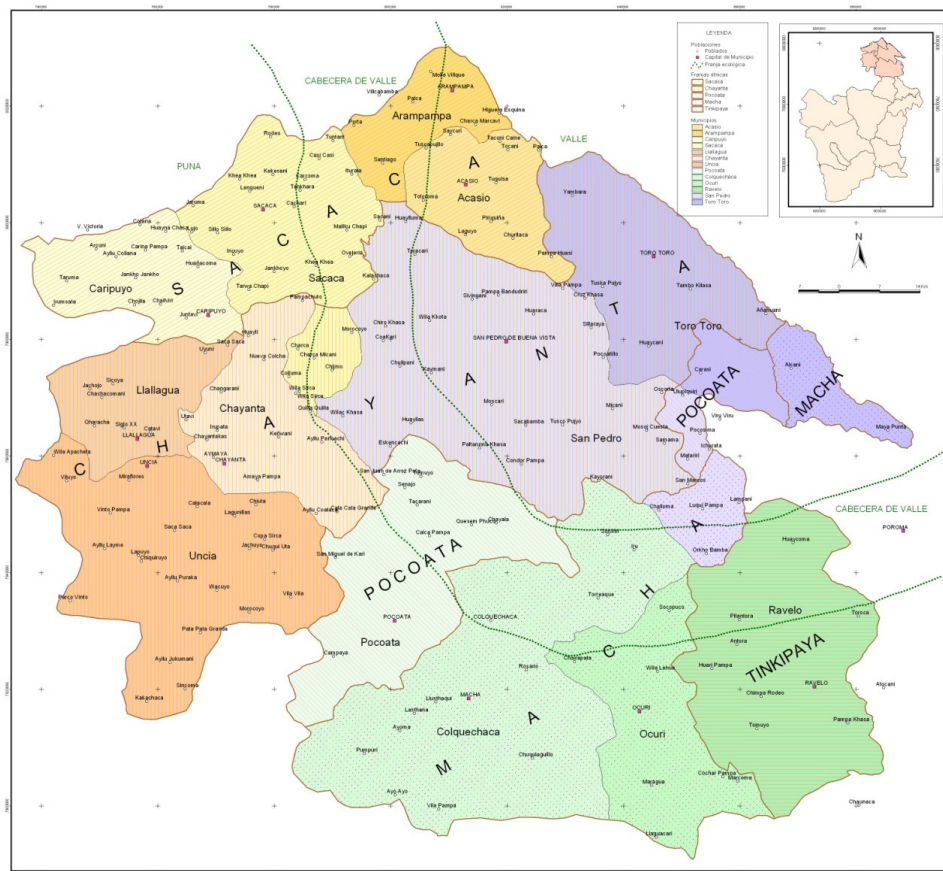
- 1.1 **Environmental and socioeconomic background.** Given its sharp contrast in elevations and diversity of climates and ecoregions, Bolivia has a wide range of ecosystems that are home to enormous biological diversity. According to estimates, Bolivia is home to nearly 15% of all the world's species of vascular plants (UNDP, 2008), growing on just 0.84% of the earth's surface. This puts Bolivia among the 15 countries with the greatest biodiversity in the world. Its mosaic of ecosystems around the Andean mountain range provides natural habitat for wildlife species of global importance, many endemic and unique to the Andes.
- 1.2 Although much of Bolivia's territory is in good conservation condition, 36% of its area is in critical condition, due in large part to current patterns of development. Erosion affects nearly 250,000 square kilometers (approximately 25% of Bolivian territory), as a result of both poor land management practices and climate change. The project area, around the mountain range in northern Potosí, is especially vulnerable to these processes because of geographic factors that make it more susceptible to desertification. This, combined with historical factors such as destabilized slopes and contamination caused by mining operations, has led to significant environmental degradation and low productivity of the soil used for intensive farming by poor campesino families with no other means of subsistence.
- 1.3 In the past, traditional farming practices and strong social organization have offset the limitations of the natural environment. These two factors, which have formed the basis for the survival strategies of these native peoples, as well as their political organization and cultural interaction, were expressed in the vertical control and ecosymbiotic management of the ethnoecological strata in their territory, and centered around territorial organizations called "ayllus."¹ Under the traditional systems, production was more diversified, risk better distributed, and food security more effectively guaranteed over the long term because it was based on exchange (bartering). A weakening of the ayllu adaptive system for natural resource management and social structures is resulting in loss of agrobiodiversity, unsustainable management of natural resources, and a gradual deterioration of food security for the population.
- 1.4 There is a general perception that Andean ayllus are developing under a pattern of impoverishment because of the unsustainable use of natural resources in local economic dynamics (UNDP, 2008). The current pattern of land use and natural resource exploitation in 270 campesino and indigenous communities in the project area is the result of the unplanned expansion of agricultural and livestock activities, intensive and untenable use of soil due to excessive division of land, widespread cultivation of fewer varieties, as well as agricultural practices that carry high risk for the local population, from both the environmental and the food security

¹ Prehispanic structures of territorial organization that still exist in the Andean region of Bolivia.

standpoints. The development model instituted in the native communities reflects, in large part, external pressures such as the labor market and production, coupled with internal factors such as a weakening of community social structures. The resulting land-use pattern is characterized by low yields and declining productivity, and is expanding only because of demographic pressures.

- 1.5 **Traditional social structures support appropriate land-use management.** Northern Potosí and southeastern Oruro are home to a number of ayllus (270 indigenous communities, 38,000 inhabitants), where 90% of the population speak Quechua, 1% speak Aymara, and the remaining 9% speak Quechua/Spanish.

Figure I-1. Map of Ayllus in Northern Potosí



- 1.6 Each ayllu has communal lands as well as privately owned lands, in different amounts. The economy of each particular ayllu is based on the vertical control of three ecological strata: puna (highlands), chawpiraña (transitional zone), and valleys. Each of these ecological strata is characterized by different types of vegetation and is suitable for different agricultural and livestock practices, which fosters the development of agrobiodiversity, as well as water and soil conservation. Depending on physical conditions and requirements (topographical), climatic

conditions, and community support, traditional management practices combine soil conservation measures (mainly terraces, or *pataqas*), water management (collection and storage of rainwater, or *q'ochas*), crop rotation, organic fertilizer use, food and energy production through an intensive combination of agriculture/forestry/pasture systems, naturally regenerating pastures, and grazing in carefully managed wetlands. This integrated use of vertical ecosystems gives rise to a pattern of residence in two or three locations in the different ecological strata. Under this management strategy, inhabitants travel from one place to another, not only to care for their own crops but to trade with relatives and regular customers, thus ensuring basic food security for their families. The traditional use of vertical ecosystems provides ayllu populations with a highly complementary mix of foods as well as additional income from the sale or barter of their products. Despite the importance of this strategic use of different ecological strata and of the resources they generate for communities, there is little information on its condition, use, and potential for the sustainable management of traditional land-use practices.

- 1.7 **The strategies of the country and the Bank.** The Government of the Plurinational State of Bolivia promotes social and economic change with the aim of restoring balance between the need for nature conservation and the economic needs of national development through strategies to preserve ecosystems, species, and genetic resources of ecological, economic, and cultural importance. To reach those objectives, the country needs economic development strategies grounded in sound environmental management that can improve the lives of the country's low-income population and preserve its rich natural heritage. Since 2007, the government has been promoting the use of indigenous territorial management plans (known by their Spanish-language acronym, PGTIs), which have been included in the new constitution as a development tool for native peoples. However, efforts are still needed to regulate and orient the development and use of PGTIs, so that they can meet the objectives for which they were created, and can be coordinated and linked with other territorial planning instruments such as the municipal land management plans (PMOTs). The Bank's country strategy with Bolivia reflects these objectives, and this project focuses directly on achieving these common purposes.
- 1.8 **Project strategy.** The project promotes agrobiodiversity conservation in Andean vertical ecosystems (EVAs) and sound management of the productive capacity of soils in one of most severely eroded parts of Bolivia. The project will cover an area of 7,281 square kilometers that contains several EVAs distributed over three ethnoecological strata: suni or puna (high mountains and rangelands between 4,800 and 3,900 m.a.s.l.), chawpiraña (mountains and heads of valleys between 3,900 and 2,500 m.a.s.l.), and likina (dry valleys between 3,300 and 2,000 m.a.s.l.). The project strategy is to strengthen and use the mechanisms and structure of the traditional territorial organizations (ayllus), so as to enable the communities to recover their ancestral management practices for natural resources, water, soil, and agrobiodiversity, and strengthen native trade systems (not dependent on external markets), always with a view to adapting to circumstances and exogenous factors that affect the present and future of the beneficiary communities. In the medium

- term, the project seeks to reduce the communities' economic vulnerability, strengthen local food security, and improve the integrated management of EVAs.
- 1.9 The project will directly target an area of about 2,900 square kilometers with a population of more than 6,600 families, or 38,000 inhabitants. In the project area, between 98% and 100% of inhabitants live below the extreme poverty threshold. As a result of this project, it is expected that beneficiaries will: (i) receive information and data demonstrating the impact of traditional practices—and the social structures that support them—on agrobiodiversity conservation and agricultural productivity; (ii) have access to experimental demonstration plots on land made available by the ayllus for this purpose, which will be worked by local communities members, with the elders teaching the young people; and (iii) obtain results and new information from these experimental plots, drawing lessons that can inform local and national policies to promote a continued stream of benefits from these ancestral practices and social structures. The demonstration effect of these plots is expected to extend the reach of the project into the entire project area (approximately 140,000 people).
- 1.10 **Contribution to the Sustainable Energy and Climate Change Initiative (SECCI).** The execution of the project's three components will generate factual, scientifically verifiable information on the impact of traditional technologies on meteorological variables at the local and regional levels. The project will also analyze the discernible outcomes of measures to mitigate and adapt to climate change through sustainable agricultural practices. Climate change impact indicators were formulated during project preparation and subsequently included in the project Results Matrix, and the Monitoring and Evaluation Plan. The results of the measurements made at the project-financed meteorological stations will be fed into the database of the National Meteorology and Hydrology Service (SENAMHI), through its project to standardize meteorological variables (with sensors in Oruro); the stations will be supervised by SENAMHI and incorporated into the national system. The project will support the execution of the Disaster Risk Management Plan in Bolivia (financed by the Economic Commission for Latin America and the Caribbean (ECLAC) and the Bank between 2006 and 2007), since the mitigation measures are consistent with the actions promoted by the plan. Moreover, the project will be implemented in one of the most vulnerable ecosystems in the Bolivian highlands (altiplano). The frame of reference for analyzing the impact of climate change on the long-term sustainability of project-supported agrobiodiversity conservation efforts, as well as the impact of project-promoted sustainable management measures on the evolution of climate change at the regional and local levels, were examined during project preparation (see optional electronic link 8, "Climate change impact analysis"). In addition, the project will produce observations that can be used, by the government and by the Bank itself, in designing projects for adapting to climate change.

B. Objective, components, and cost

- 1.11 The purpose of this project is to promote the conservation of agrobiodiversity and the sustainable use of soil and water in Andean vertical ecosystems (EVAs), whose endangered native species and plants play a role in the food security of the ayllus of northern Potosí and southeastern Oruro. Its expected outcome is to demonstrate that the ayllu model of adaptive management promotes conservation of agrobiodiversity and sustainable use of soil and water in integrated management demonstration plots (PDMIs) located in EVAs, and that this model is used in municipal territorial planning and family agriculture in the area. The project will help raise awareness of traditional local soil and water conservation practices and recover and disseminate them among beneficiaries of other agricultural development projects, in particular the Creation of Rural Agrifood Initiatives (CRIAR) project, which will be implemented in coordination and conjunction with this project.
- 1.12 **Component 1: Documentation of information and monitoring of soil, water, and agrobiodiversity resources as well as climate change impacts.** Information will be gathered on: (i) the state of soil, water, and biodiversity conservation in the project area, and progress made over the course of project execution with the use of the ayllu adaptive management system; (ii) traditional agricultural and livestock practices used in the ayllus model; (iii) current agricultural practices for the management of water resources and agrobiodiversity; and (iv) current discernible impacts of climate change on EVAs, as well as on the response to mitigation and adaptation measures through improved agricultural practices. This component will supply the baseline data on ayllu management systems that will make it possible to analyze the ayllu as an adaptive system for agrobiodiversity management, and the conditions—land area, quality and degree of natural resource conservation, etc.—under which it can serve as a viable model applicable to current conditions. This component will also analyze the contributions of alternative agricultural and livestock management technologies, which can subsequently be used to design technical and scientific tools for decision-making on policies, programs, and projects at the community, municipality, department, and/or national levels.
- 1.13 **Component 2: Policy support, regulatory framework, and local capacity for vertical ecosystem management.** The objective of this component is to identify the models of social organization for agrobiodiversity management and conservation promoted by the ayllus as adaptive resource management systems; it also aims to establish mechanisms for enhancing the system of local governance for EVA conservation in the area. The strategy is to ensure that interventions at the local, regional, and national levels are consistent, coordinated, and consensus-based, in order to ensure complementarity of actions between local and national authorities in terms of land-use planning, as well as soil, water, and agrobiodiversity conservation. Under this component, six municipal land management plans (PMOTs) will be formulated in six municipios covering the area of social influence of the 12 participating ayllus. In addition, the corresponding PGTIs will be designed, with a view to standardizing land-use criteria of the

planning instrument (PMOT) and the community action instrument (PGTI). The PMOTs and PGTIIs will be guided by the agrobiodiversity management and conservation strategies of the traditional ayllu adaptive management system. The data collected, analyzed, and verified will be used to better understand the role of local traditional practices and knowledge. The PMOTs will make a substantial contribution to improving land-use sustainability in the project area.

- 1.14 **Component 3: Recovery and promotion of best practices and technologies for agrobiodiversity conservation, and for restoring the productive capacity of vertical ecosystems.** The purpose of this component is to develop integrated management demonstration plots (PDMIs) to implement the local EVA management models based on ayllu territorial management systems, using the organizational structure and division of labor characteristic of those systems. The idea is to test the adaptability of the ayllus to changes in the social, environmental, and economic settings. Four geographic areas² have been selected as most suitable for these purposes, taking into account soil conditions, water availability, biodiversity, and the conditions for creating an integrated management system for vertical ecosystems as traditionally used by the ayllus. In the four geographical scenarios, the communities will be organized—using each ayllu’s organizational and decision-making structure—to implement a traditional land-management system on the plots set aside by the ayllu for the project. The management system will consist of distributing a large variety of crops and managing camelids in different ecological strata at different times of the year, so as to ensure an uninterrupted flow of goods necessary for subsistence and barter, and to conserve agrobiodiversity. The project will finance the community’s work in the PDMI demonstration plots, as well as the inputs and tools needed to start and sustain the system. Agricultural work will be supplemented by animal husbandry, also using strategies adapted to the cycle of rotation through the different ecological strata. The project will support construction of nurseries and the planting of native species, and will compensate ayllu members for their work to conserve residual native Andean forests. Although the project will help strengthen trade (barter) mechanisms, efforts will also be made to consolidate mechanisms for selling surplus local produce on local and regional markets. The work of ayllu members will be compensated in kind at the family and community levels, and will be equivalent to the days’ wages invested by the communities. The technologies promoted and tested in these demonstration plots will incorporate improvements suggested by technical personnel contracted with program resources, to maximize the positive impact of traditional technologies, with special attention to identifying differential impacts on general outcomes. Data on the following results indicators will be collected and analyzed during the project (see Results Matrix): (i) organic content, water retention, depth, and susceptibility of soils to erosion; (ii) retention and regulation of surface water flow; stability of water table; (iii) variety of crops for family consumption, barter, and trade; (iv) microclimatic variations associated

² In Potosí: Chayanta, San Pedro, Jarana, and Kakachaka south of Oruro.

with changes in land-use patterns; (v) resistance of the different crop varieties to drought, temperature variations, and sun exposure; (vi) resistance of shrub and grass species to climate change, and response to variations in the pattern of use; and (vii) degree to which project-promoted technologies and adaptive strategies are adopted by families participating in the PDMIs, and others not directly associated with the project. This information will be monitored and used in Component 1 to test the hypothesis of greater sustainability through the use of traditional knowledge and organizational structures.

- 1.15 **Cost and financing.** The estimated total cost of the project is US\$14.05 million, of which US\$6 million will be financed with resources from the Global Environment Facility (GEF). The contribution of the Government of Bolivia, for a total US\$8.05 million, will comprise an estimated US\$479,525 in resources in kind, and US\$7,570,475 equivalent in resources from loan 2223/BL-BO-CRIAR.

Table I-1. Summary Cost Table

Component	GEF/IDB (US\$)		Counterpart (US\$)				Total (US\$)	(%)
			MMAyA		2223/BL-BO			
Administration	389,660	50.2%	386,160	49.8%		0%	775,820	5.5%
Component 1	862,645	97.3%	24,060	2.7%		0%	886,705	6.3%
Component 2	1,006,180	97.1%	30,000	2.9%		0%	1,036,180	7.4%
Component 3	3,741,515	33.0%	39,305	0.3%	7,570,475	66.7%	11,351,295	80.8%
TOTAL	6,000,000	42.7%	8,050,000		57.3%		14,050,000	100%
			479,525	3.4%	7,570,475	53.9%		

- 1.16 The Creation of Rural Agrifood Initiatives (CRIAR) project (loan 2223/BL-BO) is part of the counterpart contribution for this project. It supports food production within the framework of the national policy on food security and food sovereignty, malnutrition, and communities in action. It targets extremely poor municipios, and supports family farming mainly for own consumption and local markets. During project preparation, it was decided that implementation of the two projects would be complementary and closely coordinated, such that the traditional practices promoted by the GEF project would be applied in the different economic and cultural settings of the CRIAR project. The outcomes of the CRIAR project will serve as feedback for the GEF project, which will derive good practices and lessons learned for expanding the pilot experience in the future. The executing agencies of the two operations will create coordination mechanisms to facilitate close ties and exchanges between the two projects; this process will be the subject of special attention during execution, and during evaluation events.

C. Key results indicators

- 1.17 The project's key indicators will be as follows:

Table I-2. Key Results Indicators

Indicator	Rationale
Critical surface protected against erosion and soil degradation by conservation and sustainable management strategies (number of hectares)	The project will promote the conservation and sustainable use of biodiversity. Improving agricultural practices is the foundation for the change sought by the project; it will affect local incomes as well as the capacity of local ecosystems to withstand the impacts of climate change.
Number of families that recover biodiversity management practices with renewed awareness of their value, leading to increased food security, improved self-subsistence, and reduced their dependence on at-risk markets.	Project beneficiaries will be able to make better agricultural decisions based on: economic value, use of agrobiodiversity, efficiency of traditional and new agricultural technologies, and effectiveness of management decisions.
Increased productivity percentages of varieties important for food security	All project activities are designed to reduce soil erosion by increasing plant cover and improving soil capacity for indigenous, Andean, and traditional agriculture, which will mitigate the impact of climate change on food security.
Integrated EVA management is part of the regulatory framework, policies, and plans at the local and central government levels.	The project will help strengthen local and national policies by incorporating agrobiodiversity associated with traditional knowledge into agricultural policies.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instrument

- 2.1 The project will be financed with US\$6 million in grant financing from the Global Environment Facility (GEF). An advance of US\$150,000 equivalent (2.5% of the GEF financing) will be allotted to the project execution unit to cover the expenses incurred in the first six months of project execution, according to the financial projections of the project team.

Table II-1. Planned Disbursement Schedule

Source	Year 1	Year 2	Year 3	Year 4	Year 5
GEF	5%	22%	25%	27%	21%

B. Environmental and social safeguard risks

- 2.2 The project is not expected to have direct adverse environmental or social impacts because it is designed to promote agrobiodiversity conservation and sustainable land and water management, in order to restore productive capacity and sustainability in Andean vertical ecosystems (EVAs). The project promotes

mitigation of natural disaster risks and protection of critical natural habitats. All activities will uphold the safeguards of all IDB project-financing policies. The Environmental and Social Impact Review Secretariat (ESR) reviewed the project on 17 October 2008, and classified it as “Category C.”

C. Fiduciary risk

- 2.3 The institutional capacity of the Ministry of Environment and Water Resources (MMAyA) was assessed using the Institutional Capacity Assessment System (ICAS). The result was an overall rating of average development and medium risk (see optional electronic link 2).
- 2.4 These results indicate an acceptable level of institutional development and risk, qualifying the MMAyA as a viable executing agency for the project, capable of providing the expected technical, administrative, and fiduciary assistance and performing oversight functions. The report notes that frequent changes in the ministry’s technical and executive structures are a significant obstacle, and that a key source of strength is its consistent application of the procedures of the “SAFCO” Government Administration and Oversight Law. However, the findings on the Internal Control System (SCI) indicate that this area requires special attention, particularly given the limitations of the MMAyA Internal Audit Unit’s staff and their unfamiliarity with internal audit procedures.
- 2.5 The ICAS offered a series of recommendations for institutional strengthening of the MMAyA’s internal systems, taking into account several other sources of institutional strengthening currently available to the ministry, mainly from bilateral funding sources. The following recommendations are of specific interest for effective implementation of this project: (i) adoption of a visual accounting system (SIAP) and its integration into the management information systems; (ii) contracting of a consultant specialized in financial management and experienced with IDB procurement procedures, to support project payments and management; and (iii) ensuring that the aid to install and operate the project’s geographic information system is expanded to include the MMAyA’s operational units, in cooperation and coordination with MMAyA projects currently under way. As the project’s Operations Manual calls for the adoption of the SIAP visual accounting system as a project management tool, the software will be purchased with project funds. The hiring of a financial management specialist and a procurement specialist is included and budgeted for the project execution unit (PEU). The geographic information system (GIS) to be financed under Component 1 includes funds for installing nodes to connect the project GIS with the GIS of the MMAyA.
- 2.6 In addition, a detailed Operations Manual will be completed before the start of project execution. This manual will address special fiduciary considerations and include a detailed description of public procurement procedures, administrative and accounting control procedures, reporting to the IDB, and external audits of the project. The manual will also describe the Steering Committee’s internal decision-

making procedure for project-related matters. **As a condition precedent to the first disbursement, the project Operations Manual will be approved by the MMAYa with the Bank's no objection.**

D. Cost-effectiveness analysis

- 2.7 The proposed project activities were assessed using the cost-effectiveness analysis methodology, for which two criteria were used: (i) selection of intervention measures in the physical and biological environment, and agricultural practices that most effectively reverse and/or mitigate soil, water, and agrobiodiversity degradation; and (ii) selection of implementation methods that keep costs to a minimum by employing local labor, local materials, and methods requiring low levels of manufactured inputs with a high capital cost. The economic assessment methodology chosen for the project also took into account the most effective measures used in the following recent projects in Bolivia: 2005-2009 Program for the Environment Sector (Phase Two), and Program to Support the Indigenous Population, both financed by the Danish cooperation agency; the Natural Resources Management Program, financed by the International Fund for Agricultural Development; and Complementary Crops Introduction Program, implemented by the Canadian International Development Agency. Based on the cumulative experience of those projects, even though they can only approximate the ayllus' traditional land, water, and agrobiodiversity conservation and management practices, the project is projected to enable substantial productivity gains (10% annual), a 20% increase in the volume of goods for trade, and up to a 15% annual increase in the output of native species, which will have additional environmental and ecological benefits. To these benefits must be added the key benefit of recovering the productive capacity of up to 25% of eroded lands in the area. Obtaining similar or comparable benefits under the abovementioned projects required an investment of between 150% and 250% more than the amount to be invested by the present project.

E. Other key issues and risks

- 2.8 The seasonal migration of community members in the project area to work in mines may reduce the amount of time they devote to the project; this can become more acute if there is a rise in the international prices of minerals. To mitigate this risk, Component 3 focuses entirely on demonstrating the sound economic reasons for sustainable management and traditional agricultural practices, which will convince farmers that returning to these practices makes economic sense.
- 2.9 There are also risks associated with longstanding ethnic conflicts among the ayllus regarding territorial boundaries and activities that make use of natural resources. However, since the project provides opportunities for the region's 20 ayllus to participate, it can serve as a facilitator to reduce tensions and improve relations. In order to prevent and, if necessary, manage this type of risk (including possible tensions between farmers' unions and ayllus), the project will rely to a large degree

on the prestige and weight of its Steering Committee, the responsibilities of which will include helping to resolve conflicts and arrive at negotiated solutions.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

1. Institutional arrangements

- 3.1 The executing agency will be the Ministry of Environment and Water Resources (MMAyA). For project execution, the MMAyA will establish a project execution unit (PEU) in the project area (Chayanta).
- 3.2 A Steering Committee will be created, comprising two representatives of local municipal governments, three representatives of the ayllus, two representatives of the MMAyA, and the technical coordinator, who will represent the PEU. The technical coordinator of the PEU will be responsible for supervising compliance with the strategic directives issued by the Steering Committee. The principal functions of the Steering Committee will be: (i) to validate the menu of project-promoted options from among the many integrated management practices making up the ayllu adaptive management system; (ii) to validate the lands selected for the project's demonstration work; and (iii) to regulate the relative level of participation of the different ayllus in execution of the project's three components. The project will provide funds for the travel of Steering Committee members so that at least one fourth of its meetings take place at PEU headquarters. **As a condition precedent to the first disbursement, evidence will be provided that the Steering Committee has been formally established, and its members appointed by ministerial resolution of the MMAyA.**
- 3.3 To ensure the active participation of the ayllus in project execution, and to establish clear rules and procedures for distributing project benefits and obligations, each ayllu will sign a participation agreement, as will each municipality wishing to participate in the project by through development of the land management plans financed under Component 2. **As a condition precedent to the first disbursement, participation agreements will be submitted, signed by at least three ayllus, pursuant to the model prepared by the MMAyA and approved by the IDB.**

2. Project execution arrangements

- 3.4 The PEU will have at least of a technical coordinator, a technical assistant, an administration and finance coordinator, a procurement specialist, and an administrative assistant. The members of the PEU will be contracted as long-term consultants for the duration of the project, in accordance with IDB procedures. **As conditions precedent to the first disbursement, evidence will be provided that the PEU has been formally established, and that the technical director, procurement specialist, and administration and finance specialist have been contracted, in accordance with IDB procedures.**

- 3.5 The PEU will be directly responsible for all consultation processes with stakeholders for the collection and documentation of agrobiodiversity and climate change indicators (Component 1), creation and strengthening of local institutions (Component 2), and training of technical personnel and the planned experimental and demonstration activities (Component 3), and, in general, the execution of all project activities. The executing agency will ensure that all information of the monitoring and supervision system and the geographic information system (GIS) gathered in the project target area over the course of the project is made available and reported to the various internal bodies of the MMAyA, instituting a process to provide feedback on project findings to the rest of the ministry.
- 3.6 **Procurement.** Goods and services for the project will be procured in accordance with IDB policies (document GN-2350-7 for consulting services, document GN-2349-7 for goods and works), in accordance with the project's Procurement Plan. Given the need for highly specialized services, in the event few bidders are available for contracts associated with flora, fauna and agrobiodiversity (Component 1), direct contracting may be employed for specialized agencies or institutions, when truly warranted. A summary procurement plan and an itemized procurement plan have been prepared (see Annex III and required electronic link 3) for the first eighteen months of execution. The procurement plan will be updated annually or when substantial changes are necessary, subject to IDB approval. With regard to procurement reviews, whenever a procurement method is used for the first time, it will be subject to ex ante review; thereafter and unless otherwise indicated, it will be subject to ex post review.
- 3.7 **Reports and audit.** The PEU will deliver semiannual technical and financial reports, in accordance with IDB procedures and format. Along with the midyear progress reports and the annual reports, the PEU, in collaboration with the IDB, will prepare an annual project implementation review (PIR) report pursuant to Global Environment Facility (GEF) requirements. This report will be delivered to the GEF Secretariat, and will include progress made toward overall environmental benefits, sustainability, and project replicability.
- 3.8 The PEU will also deliver to the IDB annual financial statements and accounting audit reports prepared by an independent auditor acceptable to the IDB, in accordance with terms of reference and requirements previously agreed with the Bank. The audit report will make specific observations regarding the adequacy of the PEU's internal control procedures. Annual audit reports will be delivered within 120 days after the close of the annual fiscal cycle, and the final audit report will be delivered within 120 days after the date of the last disbursement. The costs of the audits will be covered by the project.
- B. Summary of arrangements for monitoring results**
- 3.9 Project outcomes will be monitored and evaluated in accordance with the Results Matrix. The PEU will be responsible for developing and implementing an effective, integrated, and cost-effective monitoring and evaluation system for measuring the

progress toward project objectives, one that contributes to the timely adoption of corrective measures, using an adaptive management approach, in the project target area. The monitoring and evaluation system will operate within the PEU; it will feed information and data to the MMAyA's monitoring and information systems, and to the systems of participating municipalities and departments. Macroenvironmental results indicators will be observed by direct and indirect means, including the analysis of satellite images. Other monitoring activities will use secondary information, including a review of project execution information and consultants' reports. Information on quality process indicators will be compiled and analyzed through evaluations and interviews with institutional actors and beneficiaries, and social research methods will be used to measure socioeconomic and production data. Project operations will follow detailed annual work plans, and include periodic supervision of a series of short-term process indicators. As provided for in the design, the executing agency's capacity to work closely with the CRIAR project will be examined carefully as part of the periodic evaluations. A midterm evaluation will be conducted 30 months after the eligibility date for disbursements, or once 50% of the financing resources have been disbursed, whichever occurs first. The final evaluation will be conducted six months before the project's expected end date. The midterm and final evaluations will be financed with Bank funds outside the loan budget. Lastly, the project will be subject to an impact evaluation, for which the control groups and evaluation methodology will be established at the outset of the project.

CONSERVATION AND SUSTAINABLE USE OF LAND AND ANDEAN VERTICAL ECOSYSTEMS

BO-X1001

The Grants and Cofinancing Management Unit (VPC/GCM) certifies that it has received a copy of the GEF Council's Endorsement letter of 2 August 2010, for preparation of the GEF project, "Conservation and Sustainable Use of Land and Andean Vertical Ecosystems" (BO-X1001), up to US\$6 million chargeable to the GEF Trust Fund (GEFTF).

****Original Signed****

2 August 2010

Marguerite S. Berger
Chief
Grants and Cofinancing Management Unit
VPC/GCM

Date

Development Effectiveness Matrix
Summary

Indicator	Score	Maximum Score
I. Strategic Relevance	Low-High	
1. IDB Strategic Development Objectives	7.0	10
Country Diversification	2.0	2
Corporate Initiatives	2.5	2.5
Harmonization and Alignment	0.5	3.5
Beneficiary Target Population	2.0	2
2. Country Strategy Development Objectives	4.8	10
Country Strategy Sector Diagnosis	2.4	6
Country Strategy sector objective & indicator	2.4	4
II. Development Outcomes - Evaluability	Highly Satisfactory	
3. Evidence-based Assessment & Solution	6.4	10
4. Evaluation & Monitoring Plan	5.8	10
5. Cost-Benefit or Cost-Effectiveness	7.0	10
6. Risks & Mitigation Monitoring Matrix	7.5	10
III. IDB's Role - Additionality		
7. Additionality	3.3	10
Technical Assistance provided prior the project	3.3	3
Improvements in management of financial, procurement, monitoring or statistics internal controls	0.0	4
Improvements in environmental, health and labor performance	0.0	3

I. Strategic Relevance: This operation is an investment program that will take place in Bolivia, which is classified as a D country. The project falls under the Bank's current corporate initiatives of SECCI and is a poverty targeted and SEQ operation. The project falls within the Country Strategy priorities in so far as it attempts to consolidate poor territories with viable and sustainable economies, however, the CS does not provide a specific indicator for this objective. Likewise, the results chain between the Country Strategy objective and the program outcomes is established.

II. Evaluability: The main problem to be addressed by the program is clearly specified as are the factors that contribute to the problem. The magnitudes of the deficiencies for each factor are not provided nor is the interrelationship among them. The results matrix has clearly specified outcomes and outputs and corresponding indicators that are SMART. All indicators have targets and means of verification, but not all of them have baseline values. The project has a system to monitor the program. A reflexive evaluation will be undertaken, and although a budget has been allocated for both these activities there is no breakdown allotted for monitoring and evaluation. A cost-effectiveness analysis has been undertaken for some of the project components. It has an environmental and social risk classification of C. The project's risks have been rated and proper mitigation measures have been identified for all risks, however, indicators, baselines and targets are not presented to track the implementation of these measures.

III. Additionality: No additionality is foreseen.

RESULTS MATRIX

Project impact: Improve the conservation of agrobiodiversity and the sustainable use of soil and water in Andean vertical ecosystems (EVA) through use of the ayllu organizational structures, and promote the sustainability of the ayllus as the organizational structure responsible for EVA management.			
Expected outcome: Demonstrate that the ayllu model of adaptive management promotes conservation of agrobiodiversity and sustainable use of soil and water in integrated management demonstration plots (PDMI) located in EVAs, and that this model is used in municipal territorial planning and family agriculture in the area.			
Results indicators:	Baseline:	Targets:	Means of verification:
1. Increases in production and in the land subject to erosion control, soil and water conservation, with diversified crops in PDMIs using traditional technologies from the ayllu adaptive management model	1. This indicator does not have a baseline because the plots for the PDMIs will be selected by the Steering Committee before project start. The baseline will be developed in year 1 by the staff responsible for monitoring (C1).	1.1 For 25% of eroded soils, litter layer depth, organic content, and moisture retention have returned to normal levels for the area, through the use of traditional ayllu technologies 1.2 A 15% annual increase in the production of native species of tubers, roots, prickly pear, and cactus that make up the communities' traditional diet, and that can contribute to improved local food security 1.3 By project end (5 years), a 20% increase in the volume of products produced in the 3 ecological strata that are traded at fairs 1.4 Genetic material of 1,400 shrub species conserved in the germplasm bank, and communities in the 12 ayllus trained in the ecological value of the species; 2,000 hectares of pastures under rotation and deferred grazing systems, guaranteeing their sustained use under the ayllu agricultural calendar	1. Records of the project monitoring and supervision system
2. Adaptive management strategies used by the ayllus are included in municipal land management plans (PMOT) at the request of the municipios	2. There are no PMOTs for the project area	2. 6 PMOTs introduce land-use strategies based on the ayllu model	2. PEU progress reports
3. Number of families using traditional ayllu technologies for food production and economic sustainability	3. The baseline for the number of families will be developed in year 1	3. 30% of farm families in the area of the PDMIs and 10% of families in the general project area use technologies from the ayllu adaptive management model on their own plots	3. Surveys and reports from the monitoring and evaluation system

Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target	Means of verification
1. Information documented and validated on the status of, and changes in, the level of soil, water, and agrobiodiversity conservation, and adaptability to climate change (CC) in PDMIs	Model has not been studied systematically; the baseline will be developed in year 1	<ul style="list-style-type: none"> Criteria, parameters, and operating mechanisms of the ayllu adaptive management model defined through in-depth interviews with ayllu leaders and by direct observation in areas where a representative sample of agricultural practices for soil, water, and agrobiodiversity conservation, and adaptation to climate change are currently being used Establishment of baseline in PDMI GIS and monitoring and supervision system operating in the PEU 	<ul style="list-style-type: none"> System implemented to monitor changes in chemical composition and physical quality of soils 3 hydrologic data collection stations established 3 land stations established for validating satellite instruments (CC) Targeted agricultural crops (tubers and roots) that supplement protein and vitamin intake in the normal diet of the communities are identified by researchers by examining the records on traditional ayllu crops in the area 	<ul style="list-style-type: none"> Data collected on progress with soil, water, and agrobiodiversity conservation, and adaptation to CC on 10 ha. of communal lands and in 10 PDMIs Study of findings on CC threats and indicators completed, peer reviewed, and published in a specialized international journal Midterm review performed, results included in project planning 	<ul style="list-style-type: none"> Data collected on progress made on 10 additional ha. of communal land and 10 additional PDMIs 1 event attended by international scientists to discuss and validate findings 	<ul style="list-style-type: none"> Data collected on progress made on 10 additional ha. of communal land and 10 additional PDMIs 	<ul style="list-style-type: none"> Data collected on progress with soil, water, and agrobiodiversity conservation and adaptation to CC on 40 ha. of communal land and 40 PDMIs, and validated in events for scientific discussion 	<ul style="list-style-type: none"> Field and laboratory records of the work of project technical specialists Periodic Steering Committee reports that record and validate the project's principal technical findings and strategic decisions

Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target	Means of verification
2. Regulatory framework and local management capacities for EVAs include strategies taken from ayllu adaptive management model	<ul style="list-style-type: none"> • 0 PMOTs developed for the 6 municipios in the project area • 3 indigenous territorial management plans (PGTI) for the area do not include recommended land-use practices 	<ul style="list-style-type: none"> • 3 ayllus work to document the adaptive management model for use as an input for the PGTIs and PMOTs • 3 ayllus include the model in their PGTIs 	<ul style="list-style-type: none"> • 3 ayllus include the model in their PGTIs 	<ul style="list-style-type: none"> • 3 ayllus include the model in their PGTIs 	<ul style="list-style-type: none"> • 3 ayllus include the model in their PGTIs 	<ul style="list-style-type: none"> • 3 PMOTs prepared that incorporate a selection of adaptive management strategies stemming from the model 	<ul style="list-style-type: none"> • 12 ayllus include the model in their PGTIs • 6 PMOTs include adaptive management strategies stemming from the model 	<ul style="list-style-type: none"> • Reports of the PEU and the Steering Committee • Midterm review
3. Conservation practices and technologies for soils (terraces, intercropping, organic fertilizers), water (conservation of wetlands), and agrobiodiversity (increased variety of indigenous crops) recovered and used in and outside the PDMIs	Traditional ayllu practices essentially abandoned as a model of social organization due to the dispersion of the work force to jobs outside the area; traditional practices being used only in private farms around ayllu leaders	<ul style="list-style-type: none"> • 40 ha. of communal land and 40 PDMIs selected for experimental application of ayllu adaptive management model 	<ul style="list-style-type: none"> • 10 ha. of community land and 10 PDMIs include strategies from the adaptive management model 	<ul style="list-style-type: none"> • An additional 10 ha. of communal land and 10 additional PDMIs incorporate the model • 4 workshops with community focus groups to analyze problems encountered and results 	<ul style="list-style-type: none"> • An additional 10 ha. of communal land and 10 additional PDMIs incorporate the model 	<ul style="list-style-type: none"> • An additional 10 ha. of communal land and 10 additional PDMIs incorporate the model 	<ul style="list-style-type: none"> • 12 workshops with focus groups • 40 ha. of communal land and 40 PDMIs include adaptive management strategies 	<ul style="list-style-type: none"> • Field and laboratory records of the work of the project's technical personnel • Periodic Steering Committee reports that record and validate the project's main technical findings and strategic decisions • Impact evaluation

Annex II.A. MATRIX OF INDICATORS (GEF Monitoring)

Results indicator	Baseline	Targets
1. Number of ayllus, communities, and municipalities that use data that has been systematically collected and analyzed for the integrated management of Andean vertical ecosystems (EVAs), including measures for adapting to climate change.	0	<ul style="list-style-type: none"> 12 ayllus 6 municipalities
2. Number of government actors that incorporate traditional ayllu adaptive management models for agrobiodiversity conservation in their regulations and planning instruments	0	The local authorities of the 6 municipalities have reached agreement on a regulatory framework for the conservation and sustainable use of soils, water, forests, and agrobiodiversity native to the EVA in their respective areas
2.1 Number of municipal land management plans (PMOTs) that include soil, water, and agrobiodiversity conservation measures	0	<ul style="list-style-type: none"> 12 ayllus introduce criteria for the sustainable management of the natural resources in the EVA; at least 4 of them begin introducing the measures under their indigenous territorial management plans (PGTIs) 6 PMOTs have been prepared, including the 12 PGTIs with the corresponding criteria for biodiversity conservation
2.2 Number of municipio staff and ayllu families that receive training related to recovering and recognizing the value of biodiversity	0	<ul style="list-style-type: none"> 70 local technicians and facilitators, as well as 12 municipal technicians, receive training 3 fairs held for the ayllus of Oruro and 9 fairs held for the ayllus of northern Potosí during the project period in order to promote the trade of products from vertical ecosystems 70% of participating families receive training on the value of conserving the ayllu integrated management systems
3. Number of families that understand and value the potential of traditional ayllu adaptive management strategies for EVA; objective improvements in the productive capacity of Integrated Management Demonstration Plots (PDMI); number of people who receive best practices of traditional productive technologies and associated local strategies promoted by the project	<p>Low productive capacity; agrobiodiversity threatened.</p> <p>The baseline on productivity and average annual output by ecological stratum and by key crop will be constructed, under Component 1, during year 1, in each pilot area where the adaptive management model for EVA and agrobiodiversity conservation is being tested, to be prioritized by the ayllus.</p>	<ul style="list-style-type: none"> At least 30% of farm families in areas where the model is being applied and 10% of the total project area have realized the value of, apply, and replicate the technologies and practices used on demonstration plots for the sustainable management of natural resources in EVA, during the project implementation period. At least 5 varieties of Andean crops preserved (in situ and in local seed banks). Average annual increase of at least 10% in productivity, and at least 15% average annual increase in production of native and/or introduced species (food security base/surplus for market) on each plot, by ecological stratum and by harvest, in accordance with traditional agricultural calendar. 20% increase in the volume of products traded at fairs (or in markets), by harvest of representative product in each ecological stratum, by pilot intervention area

Results indicator	Baseline	Targets
	The number of hectares of native forest and wetlands under conservation will be specified in year 1.	<ul style="list-style-type: none"> • 1400 ha. of native shrub and tree species conserved in critical sites. • 2000 ha. of grasslands and pastures under conservation using sustainable management practices
3.1 Amount of land in the PDMIs subject to erosion control and soil conservation, using traditional technologies and agricultural calendar	To be determined in year 1 ¹	<ul style="list-style-type: none"> • The ayllus set aside 15% of their communal lands and farms for the PDMIs; on those plots, traditional ayllu adaptive management systems have been implemented. • At least 25% of eroded soils have been recovered for agriculture using traditional technologies and organized through the ayllus; this includes building terraces, crop rotation and fallowing, agricultural diversification, among other things. • At least 3 conservation technologies or traditional management practices for EVA recovered and used in each PDMI, and being replicated by families, during the four years that this component is in execution.
3.2 Percentage of families in ayllus that understand the benefits of conserving agrobiodiversity by using traditional integrated management technologies and practices for EVA	To be established during year 1 ²	<ul style="list-style-type: none"> • 70% of farming families in the areas where the models are being used, and 10% of the total project area, have recognized the value of, use, and replicate the technologies and practices used on demonstration plots for the sustainable management of natural resources in EVA during the project execution period.

¹ The baseline for this indicator was not established during project preparation because the geographic location of the PDMIs will be decided with the ayllus only after the project has been approved. MMAyA authorities made this decision in order to minimize the risk associated with a possible rejection in project approval, or the project not being approved.

² Idem.

Annex II.B. DETAILED INDICATORS FOR THE COMPONENTS (GEF Monitoring)

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
Component 1. DOCUMENTATION OF INFORMATION AND MONITORING OF SOIL, WATER, AND AGROBIODIVERSITY RESOURCES AS WELL AS CLIMATE CHANGE IMPACT							
Output 1.1 Research agenda on threats that affect EVA management established; studies conducted with the participation of the principal national, regional, and local actors, to include documentation of information on traditional ayllu knowledge, practices, and techniques for agrobiodiversity conservation, and the adaptation strategies used to address environmental, social, and economic threats.							
1.1.1 Viability and applicability of the adaptive management system for EVA analyzed; findings disseminated	None	Multidimensional model describing the organizational and technical aspects of the traditional ayllu management system defined	Model discussed in at least 1 workshop, and validated by the Steering Committee. Endogenous and exogenous factors that impact the current viability of the model identified Model delivered as an input for Component 3, with recommendations on current viability and applicability	Regional-national workshop/dialogue held for the exchange of knowledge on agrobiodiversity management and conservation in EVA, among corporate, social, and academic actors.	Proceedings and critical topics of the workshops/dialogues documented, published, and disseminated among regional actors involved in conservation at the regional and national levels.	Implementation of the adaptive management model for agrobiodiversity in EVA (including lessons learned and working instruments) evaluated, documented, and disseminated.	Adaptive management model for agrobiodiversity in the EVA (including lessons learned and working instruments) evaluated, documented, applied and disseminated.
1.1.2 Participatory network ("learning network") created for analyzing the perception, in project communities, of the effects of climate change	No documented studies exist on the perception, in indigenous communities within the project area, of the effects of climate change.	Focus groups of inhabitants identified/created in areas highly vulnerable to climate change Participatory methodology and questionnaires prepared for the communities 4 workshops held with focus groups to discuss perception of the effects of CC and indigenous adaptation processes;	4 workshops held with focus groups to discuss perception of the effects of CC (in new communities since year 1); outcomes documented/communicated through "learning network" on CC indicators and the National CC Program	4 workshops held with focus groups to discuss perception of the effects of CC (in new communities since year 2); outcomes documented/communicated through "learning network" on CC indicators and the National CC Program	4 workshops held with focus groups on perception of the effects of CC (in new communities since year 3); outcomes documented/communicated through "learning network" on CC indicators and the National CC Program	Documented experiences of adaptation to and perceptions of climate change vulnerability in project communities, through workshops and by preparing the findings for inclusion in the	Learning network on climate change indicators, and National Climate Change Program strengthened with systematized, documented, and disseminated information on

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
		outcomes documented/communicated through a “learning network” on CC indicators and the National CC Program				project’s system of climate change indicators	communities’ perception of climate change; findings included in the project’s climate change indicator.
1.1.3 Studies conducted on ecological, social (and institutional) vulnerability to climate change in the project’s most vulnerable areas	No research studies exist on vulnerability and adaptation to climate change in the project area	Focus groups of community members established in areas most vulnerable to climate change	4 community workshops held on vulnerability and adaptation to climate change in target communities	4 community workshops held on vulnerability and adaptation to climate change in target communities	4 community workshops held on vulnerability and adaptation to climate change in target communities	4 community workshops held on vulnerability and adaptation to climate change in target communities	Study on ecological, social (and institutional) vulnerability to climate change in the most vulnerable areas disseminated among the communities and other important actors
1.1.4 Participatory plan to reduce vulnerability and adapt to climate change at the community level includes traditional and scientific knowledge and practices for vertical ecosystem management.	A national plan exists on adaptation to climate change (Mecanismo Nacional de Adaptación al Cambio Climático) A national study (2007) exists covering an analysis of, impact of, and adaptation to climate change	Participatory informational training plan, and plan for preparing materials to improve understanding of the phenomenon and strengthen community capabilities to adapt to climate change, through documentation of experiences with local adaptation methods and traditional management strategies for vertical ecosystems. Group of community outreach workers selected	1 Department-level event to present and evaluate findings; provide feedback in project areas; year 1 midterm report.	1 Department-level event to present and evaluate findings; provide feedback in project areas; year 2 midterm report	1 Department-level event to present and evaluate findings; provide feedback in project areas; year 3 midterm report	1 national-level event to present and evaluate findings on practices and techniques to mitigate vulnerabilities and adapt to climate change, and to report on traditional knowledge, practices, and techniques for managing vertical	Plan agreed to with the communities and main actors identifies priority adaptive initiatives, with emphasis on the most vulnerable communities.

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
	<p>in Bolivia</p> <p>Several sectoral studies exist (e.g., study on vulnerability and adaptation of human health to climate change)</p> <p>Pamphlets and other informational materials on climate change are available.</p>	and trained to organize workshops and events for informing and training target communities on climate change vulnerability and adaptation				ecosystems	
1.1.5 Principal threats (and their impact) on agrobiodiversity identified in the project area; baselines quantified	Meteorological stations in the area have data, but it has not been processed or validated	Meteorological data of SENAMHI stations compiled, documented, and processed for analysis	<p>Three land stations installed in the project area for validating satellite instruments</p> <p>Satellite model developed for validating and calibrating climate data in project area of influence</p>	Data processed and analyzed	Data processed and analyzed	Data processed and analyzed	Changes in patterns of climatic variables (rain and temperature) estimated for a horizon of at least 50 years
1.1.6 Methodologies developed and “Global Observation Research Initiative for Andean Environments” (GLORIA) set up to evaluate the impact of climate change	No reliable, documented data exist for the project area.	Protocols carried out using the GLORIA methodology for the project’s biolevels (system of bioindicators for the project’s “sample plots”)	<p>4 areas selected for demonstration plots, and bioindicators established for measuring temperature and rain in the plots</p> <p>2 data collection centers and “learning network” on climate change indicators established (with scientific community, institutions)</p> <p>Methodologies reviewed</p>	Midterm outcomes confirmed with the communities (focus groups)	Data confirmed and analyzed (learning network workshop)	Baseline monitored and results of bioindicators disseminated (scientific community, institutions, communities)	Model and methodology for monitoring the impact of climate change on biodiversity.

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
on biodiversity (flora, insects, herpetofauna) in the PDMIs, at the different ecological strata in the project area							
1.1.7 Ethnobotanical study conducted on tubers of the Andean highlands			Ethnobotanical study on tubers and maize developed for Andean vertical ecosystems managed by indigenous territorial organizations in the Chawpiraña and Likina zones	Study findings published and disseminated among the main actors and conservation organizations at the local, department, and national levels	Study findings on threats and indicators identified; baseline calculated for traditional tuber crops and maize varieties in the Chawpiraña and Likina zones published and disseminated to main actors and conservation organizations		Study findings on threats and indicators identified; baseline calculated for traditional tuber crops and maize varieties in the Chawpiraña and Likina zones
Output 1.2 Information system on soil, water, and biodiversity resources, and climate change in Andean vertical ecosystems (EVAs)							
1.2.1. Environmental services of agrobiodiversity of EVA identified, inventoried, and analyzed	No studies on environmental services exist for the ecosystems in the project area.		Inventory of important flora, fauna, and crop species in the 12 ayllus of the area drawn up, registered with the National Herbarium, and published and disseminated among conservation actors	Descriptive study of environmental services stemming from agrobiodiversity conservation in the project area		Descriptive study of environmental services associated with soil and water conservation in the project area	Inventory of flora and fauna in the PDMIs registered in the National Herbarium, published, and disseminated among the main actors involved in biodiversity conservation. Principal indicators identified for agrobiodiversity

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
							and conservation. 2 studies conducted and disseminated on environmental services associated with soil, water, and agrobiodiversity conservation
Output 1.3: Monitoring, evaluation, and geographic information systems							
1.3.1 System for monitoring and evaluating the situation of agrobiodiversity, soils, and water, and the impact of climate change implemented and incorporated in a geographic information system	No indicators exist for monitoring soil, water, and agrobiodiversity conservation, and the effects of climate change in the project area	Baselines for PDMIs developed: <ul style="list-style-type: none"> Organic content, water retention, depth, and present susceptibility of soils to erosion, measured and established in situ Capacity to retain and regulate surface water flow, and water table stability measured with support of local hydrological stations Current variety of crops used for consumption and sale recorded Microclimate conditions measured through department meteorological stations Data collected and 	Data on the state of soil, water, and agrobiodiversity conservation, and resistance to climate change, included in the GIS as “without-project” situation	Field measurements of changes in the physical and chemical structure of soils, the stability of aboveground and underground water sources, microclimatic variations, and other indicators followed in Component 3, recorded and evaluated as “with-project” situation	Field measurements of changes in the physical and chemical structure of soils, the stability of aboveground and underground water sources, microclimatic variations, and other indicators followed in Component 3, recorded and evaluated as “with-project” situation	Findings from the monitoring of selected indicators documented in a GIS and disseminated to local, departmental, and national authorities. Sustainability arrangement and plan for the monitoring and evaluation system, and the GIS system, prepared and incorporated in national and departmental information systems	Information generated on soil, water, and agrobiodiversity conservation strategies in Andean vertical ecosystems

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
		<p>validated through surveys on resistance of current crops, native shrubs, and grasses to climate change</p> <ul style="list-style-type: none"> • Prevailing agricultural practices among participating communities surveyed and documented, and described as “without-project” model <p>Geographic information system and monitoring and evaluation system, developed in integrated fashion and operating within the PEU.</p> <p>Baseline calculated for selected indicators.</p> <p>Feedback from communities related to on experimental activities disseminated and integrated.</p> <p>Monitoring plan adjusted to include the bioindicators identified in Outputs 1.1 and 1.2</p>					

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
1.3.2 Georeferenced information generated by documenting existing data and monitoring project indicators, soil maps, etc.			Georeferenced information from studies conducted under Components 1 and 2 included in the GIS		Georeferenced information from the monitoring and evaluation system included in the GIS		Georeferenced information from the monitoring and evaluation system and from studies conducted under Components 1 and 2 disseminated among the main local, departmental, and national actors
1.3.3 Project experiences and lessons learned documented, published, and disseminated			1 document produced, published, and disseminated	1 document produced, published, and disseminated	1 document produced, published, and disseminated	1 document produced, published, and disseminated	1 national event to present 4 documents on experiences and lessons learned, attended by the main actors in the areas of agrobiodiversity and conservation
Component 2. POLICY SUPPORT, REGULATORY FRAMEWORK, AND LOCAL CAPACITY FOR MANAGEMENT OF ANDEAN VERTICAL ECOSYSTEMS AND FOR CONSERVATION OF THEIR AGROBIODIVERSITY							
Output 2.1 Strengthen regulatory and public policy frameworks							
2.1.1 Criteria for the integrated management of EVA form part of the regulatory	As part of the indigenous autonomy process, bylaws and regulations	3 ayllus include responsibilities and functions related to the conservation and sustainable management of	3 ayllus include responsibilities and functions related to the conservation and sustainable management of natural resources in EVA in their bylaws,	3 ayllus include responsibilities and functions related to the conservation and sustainable management of	3 ayllus include responsibilities and functions related to the conservation and sustainable management of	Proposed municipal and department regulations for the	The local authorities of the 12 ayllus, 6 municipalities and prefectures

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
framework, and of territorial management policies and plans at the community, local, departmental, and ministerial levels (ayllus, municipalities, prefectures of Oruro and Potosí, MMAyA, and other ministries), and are being implemented in the 12 ayllus in the project area to recuperate and renew awareness of the value of agrobiodiversity in the area	are being drafted for governance of the ayllus, but they do not adequately address environmental management criteria.	natural resources in EVA in their bylaws, regulations, or provisions, and incorporate these concepts in their PGTIs.	regulations, or provisions, and incorporate these concepts in their PGTIs. PMOTs prepared and include agrobiodiversity conservation criteria in indigenous territorial management plans.	natural resources in EVA in their bylaws, regulations, or provisions, and incorporate these concepts in their PGTIs. 3 PMOTs prepared and include agrobiodiversity conservation criteria in indigenous territorial management plans.	natural resources in EVA in their bylaws, regulations, or provisions, and incorporate these concepts in their PGTIs.	management of Andean vertical ecosystems (reintroducing regulatory criteria of the ayllus) prepared and submitted to the consideration of the respective authorities At least 4 of the 12 ayllus have begun implementing actions set out in the PGTIs for integral management of EVA and agrobiodiversity conservation .	have reached an agreement on a regulatory framework for the conservation and sustainable use of soils, water, native forests, and agrobiodiversity in the EVA in their respective areas; that agreement will be reflected in 12 PGTIs and 6 PMOTs.
Output 2.2 Strengthen ayllu planning instruments and management capacity							
2.2.1 Platforms for institutional coordination established and strengthened for the management and conservation of soils, water, and agrobiodiversity in northern	Opportunities for interaction at the municipal level do not necessarily prioritize soil, water, and agrobiodiversity conservation	The project's Steering Committee is created with representatives of the federations of ayllus. The Committee validates the proposed adaptive management model for agrobiodiversity conservation, deciding where to implement the demonstration plots and	2 platforms/ opportunities for interinstitutional coordination created (one for southeastern Oruro and one for northern Potosi) for the concurrent management and conservation of water, soils, and agrobiodiversity in EVA with the participation of native authorities from the ayllus, municipal authorities, and	1 fair for the ayllus of Oruro and 3 fairs for those in northern Potosi reestablished as sociocultural mechanisms for trading goods produced through the integral management of vertical ecosystems. 24 local technicians and	1 fair for the ayllus of Oruro and 3 fairs for those in northern Potosi reestablished as sociocultural mechanisms for trading goods produced through the integral management of vertical ecosystems. 24 local technicians and	1 fair for the ayllus of Oruro and 3 fairs for those in northern Potosi reestablished as sociocultural mechanisms for trading goods produced through the	Two platforms for interinstitutional coordination consolidated (1 for N.Potosi, 1 for SE Oruro) 70 local technicians and facilitators/

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
Potosí and southern Oruro.		<p>what intervention strategies will be followed within the defined framework.</p> <p>Assemblies or <i>thakhi/sara</i> held in the pilot area to plan, prioritize, and organize work in the <i>aynuqas</i> or communal lands and family plots for the next agricultural cycle.</p> <p>12 local technicians and facilitators have received training.</p>	<p>prefectural representatives.</p> <p>24 local technicians and facilitators have received training.</p>	facilitators have been trained	facilitators have been trained	<p>integral management of vertical ecosystems.</p> <p>24 local technicians and facilitators have been trained</p>	<p>coordinators and 12 municipal technicians trained in project management and implementation with the “learn-by-doing” approach</p> <p>3 fairs for the ayllus of Oruro and 9 fairs for the ayllus of Potosí held during the project period to promote the trade of goods from EVA</p>
Component 3. RECOVERY AND PROMOTION OF BEST PRACTICES AND TECHNOLOGIES FOR AGROBIODIVERSITY CONSERVATION AND FOR RESTORING THE PRODUCTIVE CAPACITY OF VERTICAL ECOSYSTEMS							
Output 3.1 Integrated management demonstration plots (PDMIs) implemented using traditional technologies and agricultural calendar, keyed to soil, water, and agrobiodiversity conservation							
3.1.1 PDMIs are implemented and use traditional technologies and agricultural calendar for erosion control, and for soil, water, and	Baselines will be developed specifically for each demonstration plot, once geographic locations have been selected by participating	<p>(Macro) pilot areas defined in consensus with ayllu authorities within the project Steering Committee, for implementing demonstration plots and testing the model developed in Component 1</p> <p>Plans, budgets, and calendar for natural resource management prepared for</p>	At least 40 ha. of communal land and 40 demonstration plots (each PDMI will be associated with at least 10 families) determined in coordination with the ayllus, using traditional soil and water management technologies and practices, as well as agrobiodiversity conservation practices, within the context of	At least 10 additional ha. of communal and/or private land in 10 new PDMIs (in addition to those established in year 2) determined in coordination with the ayllus, using traditional soil and water management technologies and practices, as well as agrobiodiversity	At least 10 ha. of communal and/or private land in 10 new PDMIs (in addition to those established in years 2 and 3) determined in coordination with the ayllus, using traditional soil and water management technologies and practices, as well as agrobiodiversity	At least 10 ha. of communal and/or private land in 10 new PDMIs (in addition to those established in years 2 and 3) determined in coordination with the ayllus, using	At least 70 ha. of communal and/or private land in 70 new PDMIs (one PDMI per at least 10 families) determined in coordination

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
agrobiodiversity conservation	ayllus. Targets will be set once the baseline has been developed	each pilot area under the leadership of the <i>mallkus</i> or <i>jilaqatas</i> and using traditional decision-making mechanisms	integrated EVA management.	<p>conservation practices, within the context of integrated EVA management</p> <p>Midterm review of the test of the management system model used in the PDMIs (physical or technical aspects) yields positive preliminary results, and necessary adjustments have been introduced.</p>	<p>conservation practices, within the context of integrated EVA management.</p> <p>At least 10% of eroded soils have been recovered with traditional technologies used by the ayllus.</p>	<p>traditional soil and water management technologies and practices, as well as agrobiodiversity conservation practices , within the context of integrated EVA management.</p> <p>At least 15% of eroded soils have been recovered with traditional technologies used by the ayllus.</p> <p>At least three traditional technologies and/or practices for EVA management and the conservation of agrobiodiversity reintroduced and used in each priority pilot area and replicated at the family level during the 4 years of project involvement in</p>	<p>with the ayllus, using traditional soil and water management technologies and practices, as well as agrobiodiversity conservation practices, within the context of integrated EVA management.</p> <p>At least 25% of eroded soils have been recovered with traditional technologies used by the ayllus.</p> <p>At least three traditional technologies and/or practices for EVA management and the conservation of agrobiodiversity reintroduced and used in each priority pilot area and replicated at the family level during the 4</p>

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
						the selected pilot areas .	years of project involvement in the selected pilot areas.
Output 3.2 Increase awareness, provide training, and promote traditional integrated EVA management, as well as technologies and practices for agrobiodiversity conservation, among the populations of participating ayllus							
2.1 Increased awareness, training, and promotion of the use of traditional technologies and practices for integrated EVA management and agrobiodiversity conservation implemented in the ayllus of the area		100% of native authorities and campesino organizations in the area of influence of the project's 12 ayllus have been informed of the program, its objectives, and conditions for execution, through traditional socialization events.	30% of families and corporate actors in the PDMIs perceive the benefits of and devote time and resources to organizing training events and opportunities for implementing strategies for sustainable natural resource management and agrobiodiversity conservation At least 8 events (2 in each geographical area) held to increase awareness and teach about the importance of conserving soils, water, and agrobiodiversity for food security among the population in the area	Midterm review of the test of the management system model used in the PDMIs (organizational aspects) yields positive preliminary results; necessary adjustments are introduced	40% of families and corporate actors in the pilot areas perceive the benefits of and devote their time and resources to organizing training events and opportunities for implementing strategies for sustainable natural resource management and biodiversity conservation At least three species of shrubs or trees, grass varieties, and animal species recognized as key factors for the conservation of EVA in each intervened area; plans for conserving them arrived at by consensus		70% of families and corporate actors in the pilot areas perceive the benefits and devote time and resources to organizing training events and opportunities for implementing strategies for sustainable natural resource management and biodiversity conservation. At least three species of shrubs, trees, grass varieties, and animal species recognized as key factors for the conservation of EVA in each intervened area;

Component/ Output	Baseline	Year 1	Year 2	Year 3	Year 4	Year 5	Target
							plans for their conservation arrived at by consensus. At least 8 events (2 per geographical area) to increase awareness and teach about the importance of conserving soils, water, and agrobiodiversity for food security among the population.

SUMMARY PROCUREMENT PLAN

Project: **Conservation and Sustainable Use of Biodiversity and Land in Andean Vertical Ecosystems**
Project number: **BO-X1001**
Period covered by this procurement plan: From: **Jul-10** To: **Jul-15**

Ref. No. (1)	Category and description of procurement contract	Estimated cost of procurement (US\$)	Procurement method (2)	Review (ex ante or ex post)	Source of financing and percentage		Prequalifica- tion (YES/NO) (3)	Estimated dates		Status (pending, in progress, awarded, cancelled) (4)	Observations
					GEF	Local / Other %		Publication of Specific Procurement Notice	Contract ends		
1	GOODS										
1.1	Good 1 <i>Procurement of computer hardware</i>	13,760.00	PC	Ex ante	100%	0%	NO	Jul-10	Sep-10	Pending	Itemized budget item 4.3.1 Project administration
1.2	Good 2 <i>Procurement of office equipment (fax, phone)</i>	15,000.00	PC - DC	Ex ante	100%	0%	NO	Jul-10	Sep-10	Pending	Itemized budget item 4.3.2 Project administration. Direct contracting will be used for items under US\$500 without exceeding the total amount of US\$5,000; otherwise, the price comparison method will be used.
1.3	Good 3 <i>Procurement of photography camera</i>	2,000.00	PC	Ex post	100%	0%	NO	Jul-10	Sep-10	Pending	Itemized budget item 4.3.3 Project administration
1.4	Good 4 <i>Procurement of multimedia equipment</i>	1,500.00	DC	Ex ante	100%	0%	NO	Jul-10	Sep-10	Pending	Itemized budget item 4.3.4 Project administration. Direct contracting will be used for items under US\$500 without exceeding the total amount of US\$5,000; otherwise, the price comparison method will be used.
1.5	Good 5 <i>Procurement of alarm system</i>	4,000.00	PC	Ex post	100%	0%	NO	Jul-10	Sep-10	Pending	Itemized budget item 4.3.5 Project administration
1.6	Good 6 <i>Procurement of parabolic antennae</i>	4,100.00	PC	Ex post	100%	0%	NO	Jul-10	Sep-10	Pending	Itemized budget item 4.3.6 Project administration
1.7	Good 7 <i>Procurement of precision equipment (GPS)</i>	3,200.00	PC	Ex post	100%	0%	NO	Jul-10	Sep-10	Pending	Itemized budget item 4.3.7 Project administration
1.8	Good 8 <i>Procurement of office inputs</i>	33,000.00	PC	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 4.3.8 Project administration
1.9	Good 9 <i>Procurement of pick-up truck</i>	38,240.00	PC	Ex ante	0%	100%	NO	Oct-10	Feb-11	Pending	Itemized budget item 4.4.1 Project administration
1.10	Good 10 <i>Procurement of motorcycles</i>	15,000.00	PC	Ex ante	0%	100%	NO	Oct-10	Feb-11	Pending	Itemized budget item 4.4.2 Project administration
1.11	Good 11 <i>Procurement of accounting software for the project</i>	12,000.00	PC - DC	Ex ante	100%	0%	NO	Jul-10	Sep-10	Pending	Itemized budget item 4.6.2 Project administration. If the Ministry needs compatible software, direct contracting will be used.
1.12	Good 12										Itemized budget item 4.6.3

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					GEF	Local / Other %		Publication of Specific Procurement Notice	Contract ends		
	<i>Procurement of software licenses</i>	25,000.00	PC	Ex ante	0%	100%	NO	Jul-10	Sep-10	Pending	Project administration. Direct contracting will be accepted depending on the degree of specialization of the software.

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					GEF	Local / Other %		Publication of Specific Procurement Notice	Contract ends		
1.13	Good 13 <i>Procurement of satellite images</i>	50,000.00	PC	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget items 1.1.6 Component 1
2	WORKS										
2.1	Work 1 <i>Works to remodel physical space for the Operations Center and the 3 subcenters</i>	12,000.00	PC	Ex post	100%	0%	NO	Jul-10	Dec-10	Pending	Itemized budget item 4.2.6 Project administration
3	Nonconsulting services										
3.1	Service 1 <i>Procurement of firm to provide workshop logistics</i>	331,506.00	ICB	Ex ante	63%	37%	NO	Feb-11	Jun-15	Pending	Itemized budget items 1.7;2.1.3; 2.1.4; 2.1.5; 2.2.2; 2.2.3; 2.3.3; 2.3.4; 2.3.5; 2.3.6; 2.3.7 Components 1 and 2
3.2	Service 2 <i>Contracting of technical services for installing 3 meteorological and weather stations</i>	38,360.00	PC	Ex post	100%	0%	NO	Feb-11	Dec-11	Pending	Itemized budget item 1.8 Component 1
3.3	Service 3 <i>Procurement of travel fares</i>	215,392.00	ICB	Ex ante	100%	0%	NO	Jul-11	Jul-15	Pending	Itemized budget items . Operating costs Components 1, 2, 3, and Project administration; 4.1.6
3.4	Service 4 <i>Rental of premises for Operations Center</i>	27,000.00	DC	Ex post	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 4.2.1 Project administration
3.5	Service 5 <i>Rental of premises for 3 sub- Operations Centers</i>	25,920.00	DC	Ex post	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 4.2.2 Project administration
3.6	Service 6 <i>Contracting of radio communications services</i>	2,240.00	DC - PC	Ex ante	100%	0%	NO	Sep-10	Jun-15	Pending	Itemized budget item 4.5.1 Project administration. In the case of direct contracting, the directives of the Ministry's communications strategy will apply; otherwise, price comparison will be used.

Ref. No. (1)	Category and description of procurement contract	Estimated cost of procurement (US\$)	Procurement method (2)	Review (ex ante or ex post)	Source of financing and percentage		Prequalifica- tion (YES/NO) (3)	Estimated dates		Status (pending, in progress, awarded, cancelled) (4)	Observations
					GEF	Local / Other %		Publication of Specific Procurement Notice	Contract ends		
4	Consulting services										
	Component 1										
4.1	Consulting service 1 <i>Contracting of expert in supervision, monitoring, and evaluation of development projects (Component 1 coordinator)</i>	75,600.00	NICQ	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 1.1 Component 1
4.2	Consulting service 2 <i>Contracting of consulting firm to develop and implement monitoring and information system</i>	79,000.00	QCBS/QBS	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 1.2 Component 1
4.3	Consulting service 3 <i>Contracting of consulting firm for research on agrobiodiversity and production systems.</i>	71,000.00	QCBS/QBS	Ex ante	100%	0%	NO	Oct-10	Dec-12	Pending	Itemized budget item 1.4 Component 1. If duly justified, direct selection will be used.
4.4	Consulting service 4 <i>Contracting of consulting firm to generate baseline on flora and fauna in project area</i>	52,000.00	QCBS/QBS	Ex ante	100%	0%	NO	Oct-10	Dec-11	Pending	Itemized budget item 1.5 Component 1. If duly justified, direct selection will be used.
4.5	Consulting service 5 <i>Contracting of consulting firm for research on climate change</i>	216,500.00	QCBS/QBS	Ex ante	100%	0%	NO	Oct-10	Dec-11	Pending	Itemized budget item 1.6 Component 1
4.6	Consulting service 6 <i>Contracting of consulting firm to conduct external audit</i>	100,000.00	QCBS/QBS	Ex ante	100%	0%	NO	Oct-10	Jun-15	Pending	Itemized budget item 1.10 Component 1
	Component 2										
4.7	Consulting service 7 <i>Contracting of institutional strengthening expert in ayllus (Component 2 coordinator)</i>	75,600.00	NICQ	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 2.1.1 Component 2
4.8	Consulting service 8 <i>Contracting of legal/institutional consultant</i>	28,800.00	NICQ	Ex ante	100%	0%	NO	Apr-13	Jun-14	Pending	Itemized budget item 2.1.2 Component 2
4.9	Consulting service 9 <i>Contracting of consulting firm to prepare PMOT plans with 6 municipios, and to review 9 PGTIs, prepare 3 new PGTIs with the ayllus</i>	547,500.00	QCBS/QBS	Ex ante	89%	11%	NO	Oct-10	Aug-14	Pending	Itemized budget item 2.2.1 Component 2

Ref. No. (1)	Category and description of procurement contract	Estimated cost of procurement (US\$)	Procurement method (2)	Review (ex ante or ex post)	Source of financing and percentage		Prequalifica- tion (YES/NO) (3)	Estimated dates		Status (pending, in progress, awarded, cancelled) (4)	Observations
					GEF	Local / Other %		Publication of Specific Procurement Notice	Contract ends		
4.10	Consulting service 10 <i>Contracting of consultant in indigenous territorial management and autonomy processes</i>	43,200.00	NICQ	Ex ante	100%	0%	NO	Apr-12	Jun-14	Pending	Itemized budget item 2.3.1 Component 2
4.10	Consulting service 11 <i>Contracting of expert in training and research processes</i>	48,000.00	NICQ	Ex post	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 2.3.2 Component 2
Component 3											
4.12	Consulting service 12 <i>Contracting of strategic planning expert (Component 3 coordinator) and supervisor of contracts with organizations that will administer the incentive system</i>	75,600.00	NICQ	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 3.1 Component 3
4.13	Consulting service 13 <i>Contracting of agricultural economist consultant</i>	46,080.00	NICQ	Ex ante	100%	0%	NO	Oct-10	Jun-14	Pending	Itemized budget item 3.2 Component 3
4.14	Consulting service 14 <i>Contracting of anthropologist consultant</i>	46,080.00	NICQ	Ex ante	100%	0%	NO	Oct-10	Jun-14	Pending	Itemized budget item 3.3 Component 3
4.15	Consulting service 15 <i>Contracting of environmentalist consultant</i>	46,080.00	NICQ	Ex ante	100%	0%	NO	Oct-10	Jun-14	Pending	Itemized budget item 3.4 Component 3
4.16	Consulting service 16 <i>Contracting of organizations to administer the incentive system for communities that apply the ayllu management model</i>	135,000.00	QCBS	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 3.5 Component 3

Ref. No. (1)	Category and description of procurement contract	Estimated cost of procurement (US\$)	Procurement method (2)	Review (ex ante or ex post)	Source of financing and percentage		Prequalifica- tion (YES/NO) (3)	Estimated dates		Status (pending, in progress, awarded, cancelled) (4)	Observations
					GEF	Local / Other %		Publication of Specific Procurement Notice	Contract ends		
4.17	Consulting service 17 <i>Contracting of organizations to administer the incentive system for communities that apply the ayllu management model</i>	135,000.00	QCBS	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 3.5 Component 3
4.18	Consulting service 18 <i>Contracting of organizations to administer the incentive system for communities that apply the ayllu management model</i>	135,000.00	QCBS	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 3.5 Component 3
4.19	Consulting service 19 <i>Contracting of organizations to administer the incentive system for communities that apply the ayllu management model</i>	135,000.00	QCBS	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 3.5 Component 3
4.20	Consulting service 20 <i>Contracting of organizations to administer the incentive system for communities that apply the ayllu management model</i>	135,000.00	QCBS	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 3.5 Component 3
4.21	Consulting service 21 <i>Contracting of project technical coordinator</i>	135,000.00	QCBS	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 3.5
4.22	Consulting service 22 <i>Contracting of technical assistant</i>	38,400.00	NICQ	Ex post	100%	0%	NO	Feb-11	Jun-15	Pending	Itemized budget item 4.1.2 Project administration
4.23	Consultoria 23 <i>Contracting of administrative and financial coordinator</i>	64,800.00	NICQ	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 4.1.3 Project administration
4.24	Consulting service 24 <i>Contracting of procurement specialist</i>	54,000.00	NICQ	Ex ante	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 4.1.4 Project administration
4.25	Consulting service 25 <i>Contracting of project administrative assistant</i>	32,400.00	NICQ	Ex post	100%	0%	NO	Jul-10	Jun-15	Pending	Itemized budget item 4.1.5 Project administration

⁴ The Status column will be used for retroactive procurements and for updates of the procurement plan.