

GLOBAL ENVIRONMENT FACILITY

PROPOSAL FOR PDF BLOC B & C GRANTS

Country: Peru

Focal Area: Biodiversity

Project Title: *In situ¹ Conservation of Native Cultivars and Wild Relatives*

Amount of Funding Requested: US\$ 171,500

Co-funding: US\$ t.b.d.

Requesting Agency: The National Institute for Agricultural Research (INIA)

Project Duration: 5 months

Block B x **Block C**

Block A Grant Awarded: No.

I. Summary Project Objectives and Description

Approximately 20 cultivated crops sustain 90% of human caloric requirements, and all depend on genetic diversity for their long-term survival. Evolution of crops cannot be guaranteed if the breeding options for that crop are curtailed through non-availability of cultivated or wild germplasm. An alarming proportion of the genetic variability of the major food plants has become extinct, and the conservation and development of the remaining crop diversity is now a matter of vital global concern. Long-term survival of crop genetic diversity will depend on the partnership of scientific institutions, government, the private sector, and,

¹ *In situ* conservation, in the case of domesticated or cultivated species, means the conservation of species in the surroundings where they have developed their distinctive properties.

above all, the communities who have developed and maintained genetic diversity over the past centuries.

The Central Andean region is one of the world's most ecologically diverse areas and is a global centre of origin for a large number of important agricultural crops. These cultivars are commonly characterized by wide diversity as a result of Andean communities' adaptation strategies within the large ecosystem and climatic variation of the Andes.

Andean cultivars have formed the basis for much of the world's current staple diet. Peru is a centre of origin for many species of tubers, such as potato, oca, olluco, mashaw, and several important grains such as amaranth, quinoa, cañihua, and varieties of lupins. Moreover, Peru is also a centre of secondary diversification for other important species such as corn and beans.

Almost all the important species originating in Peru are cultivated in the highlands in traditional agro-ecosystems. The germplasm of the region is extremely valuable not only for the maintenance and improvement of Andean agroecosystems but also for the sustainability of plant breeding in other regions and countries. For example, germplasm gathered from wild tomatoes in the Peruvian Andes contributes approximately US\$ 5.0 million annually to US processors in a global market valued at around US\$ 3.5 billion.

Crop genetic diversification is a result of small farmer management strategies aimed at developing germplasm adaptable to a broad range of climatic and ecological conditions. *In situ* conservation of native cultivars is aimed at strengthening and maintaining this process of farmer-driven genetic adaptation by promoting the economic, policy, and institutional frameworks conducive to the maintenance of "traditional cultural practices that are compatible with conservation or sustainable use requirements."

Until now, *ex situ* conservation has been the principal strategy for germplasm conservation in Peru. The National Institute for Agricultural Research (INIA) maintains a database of 56,333 registered entries from 104 cultivated species housed in University collections, the International Potato Centre (CIP), NGOs, private firms, and at INIA headquarters. The composition of this collection is broad and includes improved varieties, introductions, local varieties and landraces, and wild relatives.

In situ conservation is relatively new to Peru. In 1993 incipient *in situ* conservation activities begun in 1988 strengthened with the initiation of the Collaborative Biodiversity Program of Root Crops and Andean Tubers (COTESU-CIP-INIA) which located three microcenters of genetic diversity and initiated conservation and development activities with traditional small farmers.

These efforts, however, are insufficient to cover the vast diversity of crop genetic resources existing in the highlands of Peru. While Peru recognizes the conservation of its crop genetic resources to be a high priority, it is currently unable to finance a programme of the

scope and magnitude required to effectively maintain genetic resources of such global significance.

The project preparation resources requested here will assist Peru to design a fully integrated proposal for the development of a national programme for the *in situ* conservation of native cultivars and their wild relatives, with an initial focus on on-farm conservation activities in selected pilot sites. A step-wise approach will allow for the progressive development of institutional capacities, the evaluation of the feasibility of market mechanisms, economic instruments and the development of a policy environment conducive to the expansion and sustainability of the programme over the long-term.

II. Description of Proposed PDF Activities

Project Development Funding will be applied to the following activities:

1. Identification of specific pilot sites (landscapes) based on analysis and prioritization of microcenters of Andean agrobiodiversity. This will include consultation with leading experts, local institutions and stakeholder groups, and examination of existing information regarding globally most significant agro-biodiversity - including wild relatives and land races, their localization, and degree of threat and vulnerability.
2. Analysis of existing national and sectoral policies, laws and regulations affecting land-use, agricultural development and related sectors to determine their actual and potential effects on the conservation of agro-biodiversity nationally and locally in the selected pilot sites.
3. Analysis of on-going development programmes and private sector activities in the selected pilot sites to determine their actual and/or potential effects on agro-biodiversity.
4. Determination of the baseline i.e. current agricultural and rural development strategies and programmes, ongoing conservation efforts for the sustainable use of plant genetic resources, as well as related programmes and activities.
5. Estimation of the potential global benefits associated with plant genetic resource conservation, and identification of the corresponding programme of activities required to achieve and sustain them. Based on this programme of activities, contrasted with the baseline, calculation of incremental costs to achieve the global benefits.
6. Assessment of the technical and managerial skills and abilities required for the effective implementation and sustainability of the programme of activities identified above. This assessment will be compared with an appraisal of existing capacities of the organizations, universities, and community-based groups involved in the conservation, cultivation, and commercialization of traditional crop varieties. Identification of an institutional

framework, and formulation of a capacity building programme, to implement and sustain project implementation.

7. Identification, at a local, regional and national scale, the mechanisms and methods required for effective stakeholder participation, in the design, implementation, monitoring and evaluation of the programme of activities.
8. Development of a monitoring and evaluation programme to measure project impact, progress towards achieving global benefits, stakeholder participation, changes in the policy and legal environment, and institutional capacities.
9. Analysis of the potential for market mechanisms to sustain long-term agrobiodiversity conservation and the equitable distribution of its benefits at regional and national levels.
10. Analysis of the potential for the development of economic instruments to sustain long-term agrobiodiversity conservation and the equitable distribution of its benefits.
11. Integration of the analyses, assessments and input from the consultations and workshops, and formulation of a full project proposal.
12. Preliminary identification of complementary donors for the GEF project of *in situ* conservation of native cultivars and wild relatives.

The above PDF-financed activities will be carried out by a Project Coordinator supervising a consulting team composed of national and international experts responsible for the various activities described above. The Project Coordinator will report to a Steering Committee composed of representatives of the principal stakeholder groups: communities, universities, government institutions, and the private sector.

The proposal will be developed in a series of stakeholder workshops in which the analyses and assessments mentioned above will be analyzed and discussed. A final workshop with stakeholders, potential collaborators and funding agencies - bilaterals, multilaterals and GEF Implementing Agencies - will be held to review the final integrated proposal.

The proposal development process will be supported with the advice and input of a Steering Committee made up of representatives of the GEF Implementing Agencies, institutions involved in plant genetic resource conservation (IPGRI, etc.), and high-level experts in the field. The participation of the World Bank and UNEP will be solicited given the policy and economic analyses to be carried out, UNEP's ongoing collaboration with IPGRI and FAO in crop genetic resource conservation, and the definition of investment and related activities for the project resulting from this PDF Block B.

III. PDF Outputs

A fully integrated final proposal for the development of a national programme for the *in situ* conservation of native cultivars and their wild relatives, with an initial focus on on-farm conservation activities in selected pilot sites and the development of institutional capacities, market mechanisms, economic instruments and a policy environment conducive to the expansion and sustainability of the project over the long-term.

IV. Eligibility

Peru ratified the Convention on Biological Diversity on 7 June, 1993.

V. National Support

Peru's *National Strategy for the Conservation of Genetic Resources* focuses on three areas of high priority: conservation in protected natural areas, *ex situ* conservation and *in situ* conservation of native cultivars.

The full scale project - to be developed by PDF Block B funds - was selected as Peru's top priority in the area of biodiversity conservation through roundtable consultations involving Peru's National Commission on Biodiversity, the recently established GEF Committee in the Ministry of Foreign Affairs, representatives of community groups and farmers organizations, NGOs, and leading universities specializing in plant genetic conservation.

Peru's commitment is fully demonstrated by its ratification of the Biodiversity Convention and its explicit selection of this project as a priority for its biodiversity conservation strategy.

VI. Justification

This PDF proposal will prepare a project conforming to the *Guidance for Programming GEF Resources for 1995*, in that it will support the "identification and monitoring of wild and domesticated biodiversity components, in particular those under threat," and "capacity-building . . . to facilitate the preparation and/or implementation of national strategies, plans for priority programmes and activities for conservation and sustainable use of biological diversity." As well, the final project will "promote the sustainability of project benefits" and strengthen the involvement of local and indigenous people in conservation and sustainable use of biological diversity."

Furthermore, the project complies with the *Programme Priorities* of the First Conference of the Parties to the Convention on Biological Diversity, in particular paragraph 4, *Annex 1*, subparagraphs *d*, *e*, *g*, *i*, *j* and *l*. These refer to, among other things, the identification and monitoring of wild and domesticated biodiversity components, and implementation of measures

for their conservation and sustainable use; innovative measures in the field of economic incentives "including those which assist developing countries to address situations where opportunity costs are incurred by local communities" and the identification of "ways and means by which these can be compensated;" strengthening the involvement of local indigenous people in the conservation of biological diversity and sustainable use of its components; and the promotion of conservation and sustainable use of endemic species."

BUDGET BY ACTIVITY

Activity	Description	Cost (US\$)
Activity 1	Identification of pilot sites (includes consultations/workshops)	23,000
Activity 2	Analysis of existing policies, laws and regulations affecting conservation of agro-biodiversity	9,000
Activity 3	Analysis of on-going development programmes and their impacts on agro-biodiversity	9,000
Activity 4	Determination of current baseline; rural development strategies; on-going conservation programmes	11,000
Activity 5	Estimation of global benefits; identification programme of activities and corresponding incremental costs	16,000
Activity 6	Assessment technical and managerial skills for programme implementation, corresponding incremental costs; identification institutional structure and capacity building programme (includes consultations)	19,000
Activity 7	Identification mechanisms/methods for stakeholder participation in design, implementation, monitoring of project activities	12,500
Activity 8	Development of monitoring and evaluation programme to measure project impact at both global, national, and local levels	9,000
Activity 9	Analysis of potential for market mechanisms to sustain long-term agrobiodiversity conservation and equitable distribution of benefits	21,000
Activity 10	Analysis of potential for development of economic instruments to sustain long-term agrobiodiversity conservation and equitable distribution of benefits	20,000
Activity 11	Formulation of full project proposal (includes workshops)	14,000
Activity 12	Preliminary identification of complementary donors	8,000
TOTAL		171,500

BUDGET BY INPUT

Description	Duration	Cost
Project Coordinator (includes Travel/DSA)	5 months	35,000
Resource Economist (includes Travel/DSA)	3 months	21,000
Participation/Rural Sociologist (Local)	3 months	9,000
Plant Genetics (includes Travel/DSA)	2 months	18,000
Legal Policy (Local)	1.5 months	4,500
Capacity Building Needs Assessment (includes Travel/DSA)	2.5 months	17,000
Economist/Market Research (Local)	3 months	12,000
Consultative Workshops (8) (Local & National including travel & logistical costs)	Periodic	30,000
Administrative support (Secretarial, supplies, communications)	5 months	8,000
Materials (includes maps, reports, bibliographic materials, etc.)	N.A.	10,000
Technical Review/Advisory Support (5 expert panel)	N.A.	7,000
TOTAL	N.A.	171,500