FAO/GLOBAL ENVIRONMENT FACILITY
PROJECT DOCUMENT

PROJECT TITLE: Mainstreaming the use and conservation of agrobiodiversity in public policy through integrated strategies and in situ implementation in four Andean Highlands provinces. **PROJECT SYMBOL: GCP/ECU/086/GFF**	
Recipient Country: Ecuador	
Resource Partner: Global Environment Facility (GEF)	
FAO project ID: 615694	**GEF/LDCF/SCCF Project ID:** 4777
Executing Partner(s): National Autonomous Agriculture Research Institute of Ecuador	
Expected EOD (starting date): June 2014	
Expected NTE (End date): May 2017	
Contribution to FAO's Strategic Framework	**a. Strategic objective/Organizational Result:** SO-2 (OR-1, OR-2, OR-4), SO-3 (OR-2) **b. Regional Result/Priority Area:** Biodiversity, Family Farming, Food Security[1] **c. Country Programming Framework Outcome:** Priority area 2. Food and Nutritional Security and Sovereignty; Outcome: FAO contributes to improve the nutritional conditions of the population; *Output***:** In situ and ex situ conservation strategies of plant genetic resources
GEF Focal Area/LDCF/SCCF: Biodiversity	
GEF/LDCF/SCCF Strategic Objectives: BD-2, BD-4	
Environmental Impact Assessment Category (insert √): A B C√	

Financing Plan:	GEF/LDCF/SCCF allocation:	USD 1 250 000
	Co-financing:	
	FAO	USD 667 000
	INIAP	USD 652 260
	Heifer Foundation, Ecuador	USD 600 000
	Ministry of Agriculture, Livestock, Aquaculture and Fisheries	USD 95 207
	Decentralized Autonomous Governments	USD 2 755 300
	Local Organizations	USD 194 568
	Universities	USD 1 631 900
	Subtotal Co-financing:	USD 6 596 235
	Total Budget:	**USD 7 846 235**

[1] Based on the priority areas for action in Latin America and the Caribbean for the biennium 2014-2015, which are part of 32nd FAO Regional Conference for Latin America and the Caribbean, Buenos Aires, Argentina, March 2012. (Http://www.fao.org/docrep/meeting/025/md100s.pdf)

EXECUTIVE SUMMARY

The abundant wealth of Ecuador's biodiversity includes a rich agrobiodiversity, which is key to food security and economic development. The Ecuadorian highlands are the center of origin and diversity of globally important crops such as potatoes, beans, tomatoes and peppers. The genetic resources contained in these plants are fundamental to improve global agriculture, and in particular to address the challenges of changes such as variations in climate. The diversity in production systems not only provides benefits to farmers in the form of the resilience of these systems, the potential for income generation and increased quality of nutrition, but also delivers important environmental services such as pest and disease control, soil fertility and pollination. This diversity is endangered due to: i) the lack of knowledge and recognition of the multiple values of native plant species and varieties; ii) limitations in agrobiodiversity management and conservation strategies regarding the link between *in situ* management and use with *ex situ* conservation and research, as well as deficiencies in the development and dissemination of new varieties needed for diversified cropping systems, which would involve collaboration between *in situ* and *ex situ* systems; and iii) insufficient inclusion of agrobiodiversity values in public policy at all levels.

In response to this situation, the National Agricultural Research Institute of Ecuador (INIAP) and the Foundation Heifer-Ecuador have proposed this project in collaboration with FAO, the Ministry of Agriculture, Livestock, Aquaculture, and Fisheries (MAGAP), local community organizations UNORCAC (Western area of the Imbabura province), CEPCU (canton Otavalo), La Esperanza Water Board, CEDEIN (canton Colta), CORPOPURUHA (canton Guamote), UCOCP (canton Paltas) and The Ecological Network of Loja, the local autonomous decentralized governments (GAD) of Chimborazo, Imbabura and Loja, and the municipal governments of Guamote and Saraguro. **The** overall **objective** of the project is to **integrate the conservation and sustainable use of agrobiodiversity (ex situ and in situ) in policies, farming systems and education and awareness programs of Ecuadorian highland provinces of Imbabura, Chimborazo, Pichincha and Loja, with the aim to contribute to the sustainable management and resilience of agro-ecosystems in the Andean and other similar mountain dry-land regions**. With this aim, the focus of the project will be the scaling-up, development and systematization of activities and good practices that local and indigenous organizations are currently developing with the support of public institutions and civil society organizations, for the conservation and development of biodiversity-based productive systems. The Project will also take into consideration the policies and legal frameworks directly affecting this area, as well as raise awareness in society on the values of agrobiodiversity for food and nutrition security, conservation of ecosystems, subsistence of cultures and traditional knowledge, and income generation. Specifically, the objectives and components of the project are to: (i) incorporate the conservation and sustainable use of agrobiodiversity in public policies and promote their implementation (component 1), (ii) scale-up existing good practices of in situ and ex situ conservation and sustainable use of agrobiodiversity (component 2) and; (iii) create awareness among decision-makers, teachers, and consumers of the ecological, nutritional, cultural and economic values of agrobiodiversity (component 3).

The Expected outcomes of the project are:

1.1 Public policies and national plans incorporate measures for the conservation and sustainable use of agrobiodiversity (Target: Policy (1), plan of action (1) and related tools (3) developed and under initial implementation);

1.2 Progress on the implementation at the national level of the International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA), which facilitates access to and the benefit-sharing of plant genetic resources (Target: Article 9 of the IT-PGRFA on the Rights of the farmer under implementation);

1.3 Land managed under Development and Land Use Plans (DLUP) and GAD regulations that integrate the assessment, conservation and sustainable use of agrobiodiversity (Target: Three (3) DLUP and three (3) GAD regulations from Loja, Chimborazo and Imbabura

managing 9,000 hectares);
2.1 The diversity of species and varieties of the Andean National Germplasm Bank has been expanded factoring in the abiotic and biotic pressures for overcoming future climate challenges. The exchange of genetic materials between the bank and farmers has been strengthened (Target: 210 accessions collected, new genetic material from fifteen (15) major crops to respond to pressure factors in the Andean highlands and similar areas are accessible to local farmers and research centers in Ecuador and other countries);
2.2 Farmers and indigenous organizations have incorporated the management and sustainable use of agrobiodiversity in agricultural systems for increasing the agricultural diversity and standard of living of farmers. (Target: Five (5) organizations incorporating management of agrobiodiversity in one thousand five hundred (1,500) hectares, and increasing diversity by 40% and the standard of living of women and men (measured through qualitative surveys and disaggregated by gender);
2.3 Productive land under participatory guarantee systems (PGS) is cultivated in situ under agrobiodiversity best practices, supported and preserved by local networks of small and medium-sized farmers and indigenous producers (Target: one thousand nine hundred (1,900) hectares of productive land (representing 7% of the agricultural area of the cantons where the project operates) under PGS with the support of five (5) local networks. At least 50% of the participants are women);
2.4 Family income is raised by the increase of value-added products derived from agrobiodiversity and other economic activities linked to it. (Target: The average annual income of the 1000 participating families will be increased by 15% at the end of the project (measured through questionnaires disaggregated by gender and filled out by all the participating families at the beginning and end of the project);
3.1 Decision-makers of governmental bodies are aware of the ecological nutritional, cultural and economic values of agrobiodiversity (Target: 60 decision-makers (at least 40% women) of 4 government bodies (National Assembly, MAGAP, Ministry of Education and MIES) are informed and aware);
3.2 Local schools and technical colleges have strengthened capacity to provide educate and create awareness on the value and use of local agrobiodiversity in local diet (Target: Thirty (30) educational centers educating and raising awareness among 2,000 students);
3.3 Urban and rural populations from the target area recognize the value of agrobiodiversity and consume their local products (Target: 28.5 % increase in sales of 7 local market fairs of products derived from agrobiodiversity (achieved together with outcomes 2.3 and 2.4))

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GLOSSARY OF ACRONYMS (ENGLISH/SPANISH)

AGP	FAO's Plant Production and Protection Division	AGP	División de Producción y Protección Vegetal de la FAO
AWP/B	Annual Work Plan and Budget	PTPA	Plan de Trabajo y Presupuesto Anual
BADC	Bio-knowledge and Agricultural Development Centre	CBDA	Centro de Bioconocimiento y Desarrollo Agrario
BMP	Best-Manufacturing Practices	BPM	Buenas Prácticas de Manufactura
BH	Budget Holder	RP	Responsable del Presupuesto
CEDEIN	Indigenous Development Centre	CEDEIN	Centro de Desarrollo Indígena
COPISA	Pluri-national Conference for Food Sovereignty of Ecuador	COPISA	Conferencia Plurinacional de Soberanía Alimentaria del Ecuador
CPE	Political Constitution of Ecuador	CPE	Constitución Política del Ecuador
DENAREF	INIAP's Genetic Resources Department		Departamento de Recursos Genéticos de INIAP
DLUP	Development and Land Use Plans	PDOT	Plan de Desarrollo y Ordenamiento Territorial
EIA	Environmental Impact Assessment	EIA	Evaluación de Impacto Ambiental
EP	Executing Partner		
ESPOCH	Polytechnic University of Chimborazo	ESPOCH	Escuela Superior Politécnica de Chimborazo
FAO	Food and Agriculture Organization of the United Nations	FAO	Organización de las Naciones Unidas para la Alimentación y la Agricultura
FE	Final Evaluation	EFI	Evaluación Final Independiente
FPMIS	Field Project Management Information System	FPMIS	Sistema de Información de Gestión de Proyectos de Campo
FR	Farmers' Rights	DA	Derechos del Agricultor
GAD	Decentralized Autonomous Governments	GAD	Gobierno Autónomo Descentralizado
GEF	Global Environment Facility	GEF	Fondo para el Medio Ambiente Mundial
IEPI	Ecuadorian Institute of Intellectual Property	IEPI	Instituto Ecuatoriano de la Propiedad Intelectual
INIAP	Autonomous National Institute of Agricultural Research	INIAP	Instituto Nacional Autónomo de Investigaciones Agropecuarias
IT-PGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture	TIRFAA	Tratado Internacional sobre los Recursos Filogenéticos para la Alimentación y la Agricultura
LC	Local Committee	CL	Comité Local
LORSA	General Law on Food Sovereignty	LORSA	Ley Orgánica del Régimen de la Soberanía Alimentaria
LTO	Lead Technical Officer		Oficial del GEF
LTU	Lead Technical Unit	UTL	Unidad Técnica Líder
M&E	Monitoring and Evaluation	M&E	Monitoreo y Evaluación
MAE	Ministry of Environment	MAE	Ministerio del Ambiente
MAGAP	Ministry of Agriculture, Livestock, Aquaculture and Fisheries	MAGAP	Ministerio de Agricultura, Ganadería, Acuacultura y Pesca
MTE	Mid-term Evaluation	EII	Evaluación Intermedia Independiente
MIES	Ministry of Economic and Social Inclusion	MIES	Ministerio de Inclusión Económica y Social
MREMH	Ministry of Foreign Affairs and Human Mobility	MREMH	Ministerio de Relaciones Exteriores y Movilidad Humana
NBPS	National Biodiversity Policy and Strategy	PENB	Política y Estrategia Nacional de Biodiversidad
NGO	Non-Governmental Organization	ONG	Organización No Gubernamental
PGS	Participatory Guarantee System	SPG	Sistema Participativo de Garantía
PIR	Project Implementation Review	IRAEP	Informe de Revisión Anual de Ejecución del Proyecto
PMC	Project Management Committee	CGP	Comité de Gestión del Proyecto

PNBV	National Plan for Good Living	PNBV	Plan Nacional del Buen Vivir
PPR	Project Progress Report	IPP	Informe de Progreso del Proyecto
PSC	Project Steering Committee	CD	Comité Directivo del Proyecto
PTM	Project Task Manager	GO	Gerente de Operaciones
PUCE-SI	Pontifical Catholic University of Ecuador - Ibarra	PUCE-SI	Pontificia Universidad Católica del Ecuador – Sede Ibarra
SENESCYT	National Department of Higher Education, Science, Technology and Innovation	SENESCYT	Secretaría Nacional de Educación Superior, Ciencia, Tecnología e Innovación
SENPLADES	National Department of Planning and Development	SENPLADES	Secretaría Nacional de Planificación y Desarrollo
TCI	Investment Centre Division (FAO)	TCI	División del Centro de Inversiones
TOR	Terms of Reference	TdR	Términos de Referencia
UCOCP	Cantonal Union of Paltas Small-farmers' Organizations	UCOCP	Unión Cantonal de Organizaciones Campesinas de Paltas
UNDP	United Nations Development Programme	PNUD	Programa de las Naciones Unidas para el Desarrollo
UNORCAC	Union of Cotacachi Indigenous Small-farmers' Organizations	UNORCAC	Unión de Organizaciones Campesinas Indígenas de Cotacachi
USD	United States Dollar	USD	Dólares de EE.UU.
UTPL	Technical University of Loja	UTPL	Universidad Técnica Particular de Loja

SECTION 1 – Relevance (strategic fit and results orientation)

1.1 GENERAL CONTEXT

a) General development context related to Ecuadorian agrobiodiversity

Ecuador holds a huge biological diversity and a high degree of endemism due to its wide range of altitudes and ecological environments. Despite its relatively small land area it has been recognized as one of the 17 megadiverse countries in the world because of the large number of endemic species present. Estimates of Ecuadorian flora indicate between 20,000 and 25,000 species of vascular plants, with endemism rates ranging between 20% and 25%.

This wealth of biodiversity includes a rich agrobiodiversity[2], key to the food security and economic development of the rural and also urban population. As an example, in the indigenous communities of canton Cotacachi (province of Imbabura) alone, up to 174 local species and varieties of plants, including food, medicinal, ritual, ornamental and forest-based were identified. Besides the wide variety of ecosystems, species and genetic resources, the country is characterized by a rich cultural and ethnic diversity which is revealed in the traditional practices and land management techniques, crop selection and use of native cultivars and wild resources.

Ecuador is part of one of the Vavilov centres of origin of cultivated plants, in South America. Some crops of current global relevance like potato (*Solanum tuberosum*), bean (*Phaseolus vulgaris*), tomato (*Solanum lycopersicon*), peppers (*Capsicum* sp.) and pumpkins (*Cucurbita maxima*) were developed there. Also, Ecuador is a centre of diversity for these species, harbouring wild populations of species taxonomically related to the crops as well as a great diversity of traditional varieties of these crops, still preserved by farmers. The importance of these resources is due, not only to their foundation for traditional agriculture and therefore for food security in areas where they exist, but also to their potential to provide genes for crop varieties which can be more productive or better adapted to changing environmental conditions such as climate change, land degradation, water scarcity, and pests and diseases in the Andean region and other regions of the world where they are found. For example, the germplasm of Ecuador's wild tomatoes (*Solanum lycopersicon* var. *cerasiforme*, *S. pimpinellifolium*, *S. cheesmanii*) has been used in breeding programs worldwide to expand their range and increase crop resistance to pests[3]. Similarly, the genetic material provided by native potato varieties and wild potatoes from Ecuador is often used in breeding programs worldwide, and in recent years its commercial potential as an alternative agricultural commodity to conventional potatoes is being realized[4].

In addition to these globally important species, Ecuadorian agrobiodiversity also includes a number of species that have been disregarded and underutilized outside their local areas of cultivation. Quinoa (*Chenopodium quinoa*), for which FAO declared 2013 as its International Year, is a staple crop of the highland populations in Ecuador whose agronomic,

[2] Unless specifically stated otherwise, the term agro-biodiversity is used in this project for diversity of cultivated plants and their genetic resources, including the local and traditional knowledge associated with them.

[3] Scott, J.W., Wang, J.F. and Hanson, P.M. 2005. "Breeding tomatoes for resistance to bacterial wilt. A Global View". Acta Hort. (ISHS) 695:161-172; and Nuez, F., Prohens, J. and Blanca, J.M. 2003. "Relationships, origin, and diversity of Galápagos tomatoes: implications for the conservation of natural populations". American Journal of Botany 91:86-99.

[4] Ortiz R. 2001. "The state of the use of potato genetic diversity". In: Cooper HD, Spillane C, Hodgkin T (eds.) Broadening the genetic base of crop production. CABI Publishing.

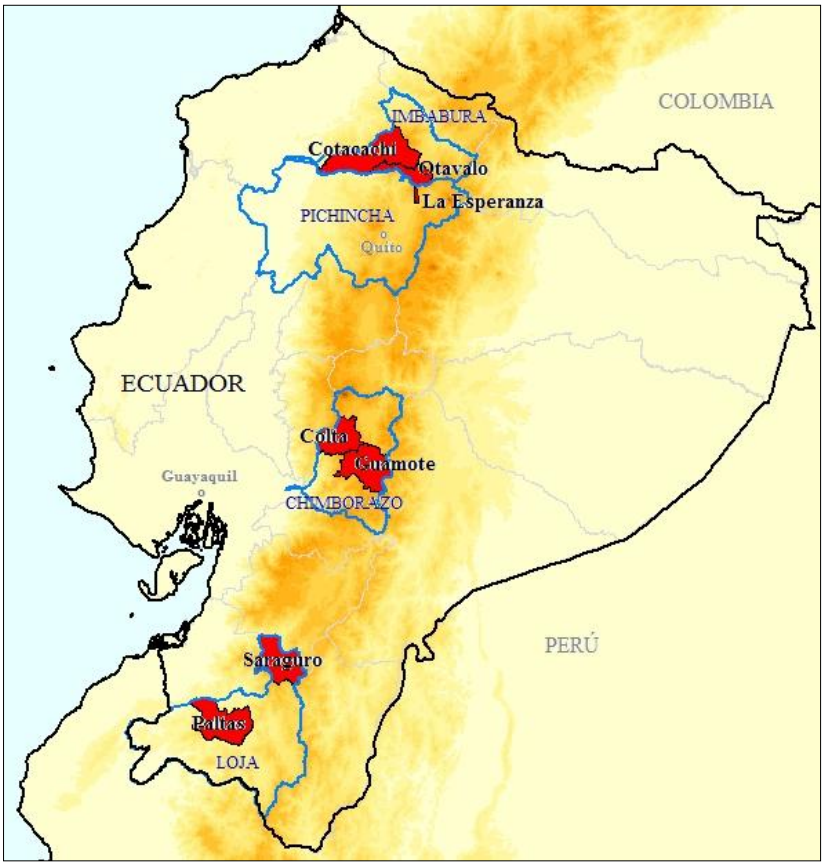
environmental and nutritional benefits are starting to be known beyond the Andean region only in the last few years. But a diversity of species is also generally found in rural home gardens, including tubers like "oca" (*Oxalis tuberosa*), "melloco" (*Ullucus tuberosus*) or "mashua" (*Tropaeolum tuberosum*), roots like white carrot (*Arracacia xanthorrhiza*), "miso" (*Mirabilis expansa*) or "jicama" (*Smallanthus sonchifolius*), and other vegetable species such as "achogcha" (*Cyclanthera pedata*) or sweet cucumber (*Solanum muricatum*), as well as fruit trees like cape gooseberry (Physalis peruviana) or Quito orange (*Solanum quitoense*). These species have been cultivated for centuries and have a great potential in contributing to income generation, food and nutrition security, and micronutrients supply for rural diets.

The areas selected for project implementation are the cantons Cotacachi and Otavalo in the province of Imbabura, the parish of La Esperanza in the province of Pichincha, the cantons Colta and Guamote in the province of Chimborazo and the cantons Saraguro and Paltas in the province of Loja (see map in Figure 1.1). All these areas are microcenters of agrobiodiversity due to the great variety of species and varieties grown in farmers' fields. The reasons for this abundance include the traditional agricultural practices of indigenous communities and the home-consumption of most of the production, which is linked to a rich knowledge of traditional cuisine. Table 1.1 presents the main agricultural production systems in the project areas, and the number of species and varieties that farmers can identify in their farms.

Table 1.1. Number of species and varieties identified by farmers in the project intervention areas. (Source: INIAP, FAO).

Cantons	**Province**	**Main production system**	**Number of species and varieties identified by farmers**
Cotacachi, Otavalo	Imbabura	Maize-bean	174 species and varieties including food, medicinal, ritual, ornamental and forest. 12 botanical races of maize and 26 varieties of bean.
Parish La Esperanza	Pichincha	Maize –bean	25 cultivated species. 11 varieties of potato, 8 of bean, 6 of maize.
Colta, Guamote	Chimborazo	Potato-barley-broad bean	19 species and 58 varieties. 18 varieties of potato, 10 of broad bean, 8 of barley, 5 of "melloco", 4 of "oca", 3 of "mashua". 73 species of medicinal use.
Saraguro	Loja	Maize - bean (lowland, below 2,700 meters) and potato-fodder (highland, over 2,700 meters)	19 species and more than 40 varieties. 8 varieties of potato, 11 of maize, 4 of bean. 34 medicinal species and 16 fruit and forest trees.
Paltas	Loja	Peanut- Maize	58 species and 70 varieties. 12 varieties of peanut, 5 varieties of maize, 8 of cassava. 55 medicinal species, 58 fruit and forest trees.

Figure 1.1. Map of Ecuador with the project intervention areas. Red: cantons and parish covered by the project. Blue: provinces.



This diversity provides significant benefits to farmers' production systems compared to monoculture systems, especially the resilience to changes in the environment, both biotic (pests and diseases) and abiotic (climate), as well as a higher nutritional quality. These elements contribute to the food security of farmers and their communities. Furthermore, diverse agricultural systems deliver important environmental services such as pest and disease control, preservation of soil fertility and pollination by insects and other wild animals. Diversity can also be a sustainable source of income generation.

A recent report by the United Nations Conference on Trade and Development (UNCTAD)[5] indicates that agriculture, both in rich and poor countries, should move away from monoculture to promote crop diversity, reduce the use of fertilizers and other inputs, enhance the support to small-scale farmers and focus in the local production and consumption of food. The study states that industrial monoculture methods are not providing enough affordable food where it is needed, whereas the environmental damage caused by this approach increases and becomes unsustainable.

b) Legal and institutional framework

In the last five years the government of Ecuador has made significant progress in the development of a policy and a legal framework for the conservation and sustainable management of agricultural biodiversity. Measures to protect agrobiodiversity and the traditional knowledge associated with it have been incorporated into laws at different levels, including in the Constitution (CPE, 2008) and the General Law on Food Sovereignty (*Ley*

[5] UNCTAD, *Trade and Environment Review 2013. Wake up before it is too late: Make agriculture truly sustainable now for food security in a changing climate*.

Orgánica del Régimen de la Soberanía Alimentaria, LORSA, 2009), as well as in fulfilment of the obligations derived from international conventions (Convention on Biological Diversity, International Treaty on Plant Genetic Resources for Food and Agriculture – IT-PGRFA). A relevant example is the adoption in 2011 of the National Regulation on Access to Genetic Resources, which stipulates mechanisms to facilitate access to genetic resources and procedures related to the sharing of benefits. However, specific rules establishing clear mechanisms for the use and conservation of agrobiodiversity and therefore to ensure their safeguarding, have not yet been established.

The public institutions directly involved in the conservation and sustainable use of agrobiodiversity are the Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP), the Autonomous National Institute of Agricultural Research (INIAP) and the Ministry of Environment (MAE). In addition, regional autonomous governments (GAD) are able to take legal action to promote productivity, food sovereignty, and the sustainable use of agrobiodiversity.

Promoting agrobiodiversity is specifically included in strategic objectives of MAGAP. In particular, its Agrobiodiversity Department is responsible for: the management and monitoring of the consolidation of the information included in the germplasm inventory and the information from local seed banks; the promotion of agrobiodiversity recovery systems through the establishment of local genebanks (*in situ*); the promotion of research on the utilization of national agrobiodiversity based on its potential and market opportunities; the formulation of recommendations on local strategies to adequately address the impact of climate change, and reducing losses through the use of appropriate technologies. Since 1980, INIAP through its Genetic Resources Department (DENAREF) has the objective of preventing genetic and cultural erosion of many endangered species, through the collection, conservation, management and sustainable use of national agrobiodiversity. Towards this aim the National Genebank maintains more than 21,000 accessions of crop species in conditions that ensure their long-term preservation.

MAE is the national authority on biodiversity and Ecuador's focal point for the Convention on Biological Diversity. MAE is currently working in the development of the National Biodiversity Policy and Strategy 2014-2020, which is expected to include a section on agrobiodiversity.

c) Threats to agrobiodiversity

Despite its high genetic and socio-economic value, Ecuador's agrobiodiversity faces major threats. The diversity of local varieties used in production systems, as well as of wild species important to agriculture, is rapidly decreasing due to several factors, including the following:

1. **The increasing adoption of specialized and non-diversified production systems**. The replacement of the many and diverse local varieties with one or a few improved varieties, is a cause of agrobiodiversity loss, which in many cases is permanent. Farmers are attracted to use high-yielding varieties with better marketing opportunities in the short term, despite the risks involved with this change. An example of loss of diversity due to lack of use occurs in the canton of Paltas where, although 12 varieties of peanuts are known in the area, farmers mostly plant only one variety ("Caramelo").

2. **The abandonment of rural areas**. The migration of rural young people to the cities is mainly due to the strong attraction of cities for their employment opportunities and availability of services, as well as to the lack of these services and available land in rural areas. Thus, the transmission of traditional knowledge important for the use and conservation of agrobiodiversity is discontinued and the relationship between culture and local crops is weakened.

3. **Changes in nutrition patterns**. As the consumption in the communities of largely uniform external products increases, the use of local products declines and the cultivation of local crop varieties are reduced, losing in this way the relationship with traditional nutrition habits.

4. **The trend in markets and trading companies to favour uniform products**. Farmers prefer to grow the varieties with greatest market acceptance, in detriment of the varieties that do not meet these characteristics, which eventually are no longer cultivated. For example, a study in the seed fair of Chimborazo carried out in 2002 identified 181 different ecotypes of potato[6], while the number of varieties in the agricultural markets hardly reaches 10 varieties.

5. **The destruction of forests and other natural ecosystems because of the expansion of the agricultural border**. Damages to wild ecosystems result in the loss of crop wild relatives and natural pollinators, important for the evolutionary development of agrobiodiversity. Edible species which in many cases are crucial to the diets of rural communities may also be lost.

Although the project will not address all of these threats, its primary focus will be to deal with three major cross-cutting issues related to threats number 1, 3 and 4. These issues are: i) the lack of recognition of the values of agrobiodiversity; ii) constraints in the strategies for the management and conservation of plant genetic resources, with weak linkages and feedback between the *in situ* management and use and the *ex situ* conservation and research, as well as constraints in the development and dissemination of new important varieties for diversified crop systems; and iii) the insufficient integration of the values of agrobiodiversity in public policies at different levels.

i) The lack of recognition by consumers, decision makers and also, in many cases, farmers of the ecological, nutritional and cultural values of native plant species and varieties. This widespread lack of knowledge hinders the implementation of incentive systems promoting crop diversity as an element of sustainability in agricultural production systems, ultimately causing its irreversible loss.

According to FAO estimates, 75 % of the world's food is generated from only 12 plants and five animal species[7]. In this context, Ecuador, like many other countries, faces serious challenges in the coming years to ensure food and nutrition security and at the same time safeguard the protection of the environment and of plant genetic resources. Less genetic diversity means fewer opportunities for the growth and innovation needed to drive sustainable

[6] Tapia, C., Estrella, J., Monteros, A., Valverde, F., Nieto, M., Cordova, J. 2004. "Manejo y conservación de RTAs *in situ* en fincas de agricultores y *ex situ* en el Banco de Germoplasma de INIAP". En Barrera, V., Tapia, C., Monteros, A. (eds.) Raíces y tubérculos andinos: Alternativas para la conservación y uso sostenible en el Ecuador. INIAP-CIP.

[7] FAO, 2006. "Building on Gender, Agrobiodiversity and Local Knowledge. A Training Manual"

agricultural practices in an era of volatile food prices. As biodiversity in food and agriculture decreases, the food supply becomes more vulnerable and less sustainable, particularly also considering environmental challenges such as climate change, soil degradation and water scarcity. Furthermore, the various risks related to monoculture systems are managed with increased external inputs, to which farmers with low economic resources often have limited or no access, thus putting them in an even more vulnerable situation. Compared to production systems based on biodiversity, monoculture systems deliver less environmental services related to soil biodiversity and pollinators, threatening the structure and diversity of ecosystems. Moreover, the diversity of crops and food and of the related traditional knowledge possessed by communities are key elements of local cultures, and their disappearance is a major detriment to the cultural heritage.

ii) Constraints in the strategies for the management, development and conservation of plant genetic resources linking *in situ* and *ex situ* approaches. Despite the important efforts made by INIAP to establish extensive collections of plant genetic resources, it is still necessary to expand and complete those collections in order to encompass the large quantity of plant varieties cultivated at present and in the past in Ecuador and to increase their availability for use in the future. In addition to the *ex situ* conservation activities, programs to promote and improve the effectiveness of *in situ* (on-farm) conservation, management and utilization systems should be developed and implemented. The challenge is to find strategies and approaches that facilitate the integration and complementarity of both systems, so that the *ex situ* conservation and research is relevant to the development and improvement of *in situ* diversified crop systems, and on the other hand increase the availability of plant genetic resources from the diversified cropping systems for research and development in order to solve future challenges.

iii) Insufficient integration of the values of agrobiodiversity in public policies at different levels. The recently established national legal framework (Constitution, 2008; General Law on Food Sovereignty, 2009) incorporates significant progress on the conservation of agrobiodiversity. However, the mechanisms to put these principles into action still need to be developed and implemented. The revision of the National Biodiversity Policy and Strategy (2000), which is scheduled for 2014 and will include a chapter on agrobiodiversity, is a crucial opportunity to formulate effective solutions to the above-described issues. At the provincial and local level, there are still very few experiences on policies and development plans incorporating the management and sustainable use of agrobiodiversity.

In summary, there are serious threats endangering the enormous and valuable agrobiodiversity of Ecuador, whose importance is not only local but also global. The implementation of programs for the sustainable management of agrobiodiversity is crucial in order to safeguard it and consequently support food and nutrition security, ecosystem conservation and income generation.

In this context, the main problems that the project will address are:

1. The insufficient integration of the sustainable use and conservation of agrobiodiversity in public policies and their implementation at national, provincial and cantonal[8] levels;

[8] The Ecuadorian territory is divided into parishes, cantons/counties, provinces and regions. Each region, province, caton/county, rural parish and metropolitan district has a Decentralized Autonomous Government which is responsible for formulating and implementing policies within its scope.

2. The absence of programs promoting and improving the effectiveness of the existing farming systems of conservation, management and use of agrobiodiversity, both *in situ* and *ex situ*;
3. The lack of access of farmers to markets and mechanisms to generate value-added for products coming from diversified systems; and
4. The lack of recognition by decision-makers and consumers of the environmental, nutritional, cultural and economic value of agrobiodiversity.

1.1.1 Rationale

a) Initiatives and baseline projects including sources of co-financing and remaining barriers

Based on the problems identified above, below are the initiatives and baseline projects for each area, including sources of financing, as well as the remaining barriers to be addressed by the project.

Public policies

The more prominent public policies initiatives being developed in support of agrobiodiversity in the country are in the following areas:

- The update of the National Biodiversity Strategy, which will include a chapter on agrobiodiversity, as well as an Action Plan and a monitoring system;
- The implementation of the recently approved national regulation on access to genetic resources;
- The initiatives of the MAGAP in relation to the implementation of the Rights of the Farmer, as reflected in the International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA);
- The enactment of legal instruments at the provincial level (Pichincha province) in support of organic production in agriculture that includes specific measures on agrobiodiversity.

i) Update of the National Biodiversity Strategy

As mentioned above, at the time of formulation of this project (2013) the Ministry of the Environment of Ecuador (MAE) is in the process of updating the National Biodiversity Policy and Strategy (2000). This updating process is being conducted under the guidelines of the Aichi[9] targets, three of which are related to the use and conservation of agrobiodiversity[10]. The process of updating is supported by a GEF/UNDP/MAE project that is part of the second generation of Biodiversity Enabling Activities[11].

During the process of updating the National Biodiversity Policy and Strategy, the MAE will collaborate with other ministries, such as MAGAP for the chapter of agrobiodiversity. This

[9] The Aichi targets are the targets of the Strategic Plan for Biodiversity 2011-2020 established by the Parties to the Convention on Biological Diversity in Nagoya, Japan in 2010. This plan consists of a shared vision, mission, strategic objectives and 20 targets.
[10] Target 7, 13 y 18. For more details see section 1.1.5 b)
[11] Actividades de Apoyo a la Biodiversidad, in Spanish

joint work will allow for the collection of data to serve as a basis for the development of an action plan and a progress monitoring system. It is expected that this work will be completed in October 2014, and take into account the lessons learned from the previous Strategy (2000). Great importance will be given to the development of an action plan as a guarantee to ensure that policies are carrying out and institutionalized.

ii) Implementation of the national regulation of access to genetic resources

In 2011 the Government of Ecuador passed by Decree 905 the National Regulations for a Common Regime on Access to Genetic Resources in Application to Decision 391 of the Andean Community. This regulatory framework's main objective is to ensure that the implementation of the terms of access to genetic resources and the profit-sharing from its use are in accordance with the terms specified in the Convention on Biological Diversity. The competent national authority on this subject is the MAE. Through INIAP, MAGAP is designated as the entity to assess genetic resources, both domesticated and cultivated organisms, as well as the wild species and varieties related to crops. In this area are excluded the species and varieties that are listed in Annex 1 of the IT-PGRFA.

In practice, the adoption of Decree 905 has meant the effective access to genetic resources and their intangible components. Thus, the country has established a mechanism which facilitate the access to plant genetic resources, procedures related to benefit-sharing and to the prevention of an indiscriminate and excessive use of agrobiodiversity. To complement the measures included in this regulation it is necessary to develop and implement other measures for the promotion, protection, conservation and recovery of agrobiodiversity and knowledge associated with it. Another measure is related to farmer's rights so they can be part of the decision-making process regarding access use and marketing of agrobiodiversity.

(iii) International Treaty on Plant Genetic Resources - Rights of the Farmer

According to IT-PGRFA, the states are to take appropriate measures to protect and promote the farmers' rights (FR), in accordance with their needs and priorities (art. 9.2). These measures include the protection of traditional knowledge and the right to participate equally in the distribution of benefits arising from the use of plant genetic resources, and the right to participate in the decision-making process on matters related to plant genetic resources. In addition, it promotes farmers' rights to conserve, use, exchange and sell planting or propagation material saved on the farms (art. 9.3).

Barrier 1: The lack of specific rules and mechanisms to implement farmers' rights (FR). At the end of 2012 the MAGAP, along with other governmental institutions (INIAP, MAE, IEPI MREMH, SENESCYT, COPISA), co-funded with SENESCYT a consultation at the national level on the implementation of FR as set out in the IT-PGRFA. The consultation concluded, among others, that there exists in the country a political will to implement the FR. However, there are still barriers that hinder their full realization, as the lack of specific regulations on the exchange of seeds of native varieties, the marketing of goods, replication of traditional and local knowledge on agrobiodiversity, and value of food culture. In general, farmers' participation in the decision-making process regarding matters of agrobiodiversity is very scarce. There is also a need to define and agree on mechanisms for the implementation of the FR including the legal instrument better suited for its adoption, which can be based on successful initiatives carried out in other countries.

IV) Ordinance to promote Agro Food Production in the province of Pichincha

In February 2013, the GAD of the Province of Pichincha, making use of their expertise in the field of food sovereignty, approved an ordinance to promote agro food production in the province that includes the prioritization of species and native varieties adapted to the different production areas. The ordinance provides a set of articulated and synergistic incentives to encourage the establishment and expansion of agro-ecological sustainable food systems, as well as its processing and marketing. According to the ordinance, the provincial Development and Land Use Plan (DLUP) should include specific measures to preserve areas to ensure food sovereignty for the province with particular attention to areas for organic production and conservation. Among the incentives for the promotion of agroecology is to give priority to the use of seeds and native genetic material, through exchanges, seed fairs, and participatory plant breeding research in agro-ecological conditions with small farmers. The regulation also recognizes the Participatory Guarantee Systems (PGS) of farming organizations, and based on this, it provides for the creation of a distinctive local label as recognition and endorsement of the agroecological production in the province.

Barrier 2: Little experience and capabilities at the provincial level in the formulation and implementation of ordinances and regulations for the development and the management of agrobiodiversity. The ordinance of Pichincha is the first in Ecuador and offers positive lessons. However, its implementation represents a major challenge, particularly in relation to production, marketing and training, as well as the inclusion of a specific section in the DLUP in relation to agrobiodiversity. In the other three provinces of project intervention (Loja, Chimborazo and Imbabura) there are still no ordinances or rules of its kind specifically designed to encourage agrobiodiversity systems**.**

In the framework of these national initiatives, during the next three years and in synergy with this project, MAGAP and INIAP will participate in the activities led by the MAE for the upgrade of the National Biodiversity Strategy. At the same time, both institutions will continue the work begun in 2012 for the analysis on the status of the implementation of the FR, with a view to the definition of a legal framework.

Within MAGAP, the area responsible for capacity-building regarding FR is the General Coordination for Innovation. The idea is to contribute to the integrated development of a producer knowledgeable of his/her rights and obligations regarding the development of the country, with a critical attitude and self-assertiveness. It should be noted that the subjects taught must be articulated and according to what is stated by the IT-PGRFA, particularly Part III, Article 9. Some of the possible themes to develop are: i) the needs and how to satisfy them; (ii) development of communities from the perspective of the person, family, civil society and the State; (iii) duties and rights; (iv) the Constitution of the Republic; (v) the new rural citizen; and (vi) Planning exercising full citizenship.

Until now MAGAP has invested USD 5 207 in the area of FR. On the other hand INIAP, as the focal point in Ecuador, invests annually USD 4 000 in activities to support its implementation.

The development of the FR will also receive the support from the GAD of the Chimborazo province, which offers to support dissemination activities for the promotion of FR. The GAD

Chimborazo will also develop a provincial public policy for the sustainable use of agrobiodiversity. All this represents an investment of USD 50 000.

Heifer-Ecuador has been working with grassroots organizations, local and regional federations that are part of the most important peasant and indigenous organizations of the country. It has supported educational processes and the development of proposals for public policies at national as well as local levels. Furthermore, based on participative action research methodologies, they have generated diagnostics, case studies, public policy and legislation drafts, and have widely disseminated laws and public policies that directly affect farmers. In that same manner, Heifer will contribute USD 50 000 for the development of a methodology and tools to measure and assess the value (social, economic, and environmental) of agrobiodiversity and family agriculture. This tool will serve as a base for implementing policies to promote farmers and their rights. Heifer will also contribute to the dissemination efforts of MAGAP in collaboration with INIAP through workshops, to achieve a massive dissemination of FR to guarantee full participation of peasant organizations. The Heifer investment in this area will be of USD 7 500 in cash and USD 6 500 In-kind.

Heifer also has a long experience in providing technical advice to GADs in the implementation of participatory methodologies of diagnosis and planning. There is then a previous knowledge of the different actors involved and methodologies to apply to achieve the definition of rules and regulations for the development and management of agrobiodiversity. Heifer will contribute to the project to scale up the experiences of Pichincha to other GADs with USD 19 800.

The Polytechnic School of Chimborazo will support the development of the methodology for assessing the value of agrobiodiversity with an amount of USD 2 000 and the INIAP with USD 5 000.

The Technical University of Loja works in area of biodiversity and has a department dedicated to issues about access to genetic resources. The University will therefore support the development of the National Action Plan for the implementation of the National Biodiversity Strategy with an amount of USD 40 350 and the preparation of a proposal of public policies in agrobiodiversity with an amount of USD 40 350.

The Pontifical Catholic University of Ecuador- Ibarra will support the preparation of the National Action Plan for the implementation of the National Biodiversity Strategy with a contribution of USD 22 500 and USD 22 500 for methodologies to assess the value of agrobiodiversity.

The municipal government of Saraguro will finance USD 21 600 for capacity-building on development and implementation of ordinances and regulations for the promotion of agrobiodiversity management.

Conservation, management and use of agrobiodiversity *in situ* and *ex situ*

In the baseline scenario, several Ecuadorian institutions governmental and non-governmental organizations (NGOs, indigenous organizations, farmers' associations, research and development institutions) have developed and implemented in the past few years a number of best-practices and approaches for the conservation and management of agrobiodiversity *in*

situ and *ex situ*, including mechanisms for the generation of added value from diversity-based production systems.

i) Conservation and management *in situ*

In the areas of intervention of the project, several initiatives are being implemented for *in situ* management of agrobiodiversity, mostly by farmer's organization with support from public institutions and NGOs. Among the most relevant are the following:

- The Union of Cotacachi Indigenous and Small-farmer's organization (UNORCAC) as a way to ensure their food security has been implementing in recent years a program on *in situ* management and conservation of agrobiodiversity. With the collaboration of INIAP, Heifer and other organizations, UNORCAC has implemented in the canton of Cotacachi (province of Imbabura) agroecological plots with emphasis on the conservation of native crops. In the past eight years close to 300 families have been trained in the management of agroecological plots and its conservation (a total of approximately 150 ha). The products of these plots are marketed in a weekly fair in the city of Cotacachi, where about 200 women producers are involved selling their products directly to consumers. In addition, for the last ten years seed exchange fairs have been held in Cotacachi with a participation of at least 150 producers, of which 80% are women. UNORCAC also manages an ethno-botanical garden where there are more than a hundred species of crops and medicinal plants and is a center of education for the conservation of agrobiodiversity. It is also a tourist attraction visited by at least a thousand tourists per year, mainly students. UNORCAC and INIAP jointly conducted an inventory of agrobiodiversity in the canton of Cotacachi and published a catalog of agrobiodiversity of the area. These actions were used as tools to raise awareness among farmers and community leaders on the values of agrobiodiversity. The activities of this program have generated a 40% increase in the availability of food for private consumption in families implementing agrobiodiversity management practices in their plots. The families who sell products in the agroecological weekly fair have seen an increase in their income by more than $100 per month. In addition, community participation in the farmer's organization has increased, particularly the number of women participating.
- The Center for multicultural studies (CEPCU), through projects financed by Heifer and other entities, supports more than 200 indigenous families producers settled in the watershed of Imbakucha (Lago San Pablo), promoting the revitalization of their ancestral agricultural knowledge and incorporating practices with a agroecological approach in farming systems. The center has been specially supporting a group of 40 women producers in 10 communities of the canton of Otavalo (province of Imbabura). The plots cover approximately 20 hectares and its surplus is sold at an agro-ecological fair once a week.
- La Esperanza Water Board is an organization that brings together users of the water system of the parish community La Esperanza (Pichincha province). In collaboration with the local government and support from NGOs like Heifer, the water board has implemented 80 agroecological plots with coverage of approximately 40 ha. As a complementary activity to agroecological production, the Board organizes a weekly

fair for local agricultural products and traditional gastronomy. It also maintains a community seed bank[12] and a school of agroecology which involves some 40 people.

- In Chimborazo province there are several community initiatives that promote the conservation and sustainable use of agrobiodiversity. The Center for Indigenous Development (CEDEIN) encouraged the implementation of agroforestry plots with emphasis on soil conservation and use of native crops. It involves around 300 families and uses techniques and methodologies accepted by the communities.
- The organization CORPOPURUHA is a farmer's organization consisting of approximately 250 farmers from the canton of Guamote. In recent years CORPOPURUHA has worked in the production of barley seeds and *chocho*, and the certification of these seeds to ensure its quality[13]. The Women Corporation of Guamote promotes the implementation of family gardens to improve the availability of food in the communities. The farmer's corperative "the Company" involves 10 members that maintain an agroecological demonstration farm to promote mainly the conservation and management of soils and agrobiodiversity. The commune Achullay promotes rescuing native crops in some 40 family plots.
- The Cantonal Union of Paltas Small-farmer's Organizations (UCOC-P) with support from Heifer, includes among its activities implementation of agroecological plots and a weekly fair organized by the producers with the participation of some 100 families. Annually a seed exchange fair takes place allowing farmers to exchange and sell local seeds as well as traditional foods.
- The Ecological Network of Loja is a group of farmers that brings together 75 families located in Saraguro, Paltas, Chuquiribamba and peri-urban neighborhoods of the province of Loja. Its products are marketed in a local agroecological fair.

Provincial and municipal governments are also moving ahead with some activities in the area of conservation and use of agrobiodiversity. The Provincial Government of Chimborazo is running the project "Minga Samak Kawsay"[14] that promotes the implementation of family and school agroecological gardens throughout the province. The municipal government of Saraguro (Loja province) works in the implementation of family gardens to improve the families' nutrition and supports a weekly agroecological fair in the canton's main town.

In relation to transfer of technology to communities and the integration of approaches for *in situ* and *ex situ* conservation of agrobiodiversity, INIAP has recently established the Bio-knowledge Center of Chimborazo, managed in collaboration with the Provincial Government of Chimborazo, as well as the Ethno-botanical Garden of Cotacachi in collaboration with UNORCAC. It is planned to establish other bio-knowledge centers in other project intervention areas (cantons Paltas, Saraguro and Guamote).

Among the main barriers remaining to expand and intensify the existing initiatives in the area of *in situ* conservation and management of agrobiodiversity are the following:

[12] Under this management model, farmers agree to conserve the crop varieties already in existence in their plots. The community bank holds samples of all varieties and facilitates the process among the farmers who conserve it and those applying for materials.

[13] During the period 2010-2013, these activities were strengthened by FAO through the Food and Nutrition Security and Sovereignty project (GCP/RLA/ 169/SPA).

[14] ".Minga" is a traditional agricultural communal work for the betterment of all, and "samak kawsay", in Kichwa, is an ancestral concept related to the good life and the fullness of life.

Barrier 3: The shortage of inventories and registers of agrobiodiversity that provide baseline information for any strategy on conservation and sustainable use of agrobiodiversity. This information can also serve as a tool to raise awareness among decision-makers and the communities.

Barrier 4: The low dissemination, both at the family and area levels of the **successful experiences in promoting agroecological plots and traditional practice**s as a strategy that reconciles the food production and the conservation of agrobiodiversity.

Barrier 5: The lack of access to agricultural inputs and technical assistance. The experiences with local fairs for seed exchange have demonstrated to have a key role in the access and exchange of seeds of species and traditional varieties and hence their recovery and conservation. However, the level of institutionalization and sustainability of the fairs is low. On the other hand, the capacity of the INIAP to multiply seeds is not sufficient to meet the demand from farmers on seed and varieties, which have disappeared or are difficult to access in the communities. But they are kept in the National Bank of Germplasm. The strategies of seed production through Bio-Knowledge centers of INIAP or the community seed banks have not yet developed its potential for the transfer of materials to the communities along with technical assistance. Therefore INIAP anticipates involving trained personnel in the areas of seed production, technology transfer unit and relevant capacity building programs.

ii) Conservation *ex situ* and characterization

Over the course of more than 30 years, the INIAP, through its Genetic Resources Department (DENAREF), has established a significant collection of *ex situ* plant genetic resources in the National Bank of Germplasm and is also identifying their biotic and abiotic characteristics of tolerance to different stresses. However, with the new challenges of climate change and land degradation and desertification, the expansion of the systematic use of agrobiodiversity to build resilient agrobiodiversity systems has become an urgent need to face the problems posed by monoculture systems, dependent on large amount of chemical inputs and water. The systematic study of stress resistance traits in native species as well as the participation of the germplasm bank in plant genetic material exchange with a view to overcome future challenges to agroecosystems in the Andean and other similar regions of the world, has become of utmost importance.

Barrier 6: Incomplete coverage of germplasm collection in INIAP and weak links with farmer organizations. Numerous studies show that the diversity of species and varieties cultivated in the traditional plots in Ecuador is enormous. Despite the work done by INIAP in the past 30 years on some cultivations, the collections of the germplasm bank of the INIAP do not represent the totality of the existing agrobiodiversity. Some native varieties have been lost in the field and the materials stored in the germplasm bank are vital in the Andean agroecosystems. On the other hand, the relationship between the farmer's organizations and the national bank of germplasm is still weak. Thus, INIAP has put into practice Bio-knowledge and Agricultural Development Centers as a strategy to bring conservation closer to the project intervention areas and connect farmers in the conservation process. This strategy is still in an initial phase of implementation**.**

In the next three years INIAP will invest USD 363 360 in the area of expansion and study of the *ex situ* collections of the gene bank, with particular attention to the maintenance of the Genebank collections and preservation of seeds, germplasm characterization, and seeds distribution. For this activity, INIAP will coordinate with the Technical University of Loja, which will invest USD 734 000 to expand the collection making use of their laboratories and germplasm banks. The Pontifical Catholic University-Ibarra will invest USD 243 000 towards the same activities, as well as an additional USD 166 000 to support Bio-knowledge Centers.

At the provincial level, the GADs of Loja (through its local company DEPRO-SUR), Chimborazo and Imbabura will collaborate with INIAP in the implementation of the Bio-knowledge Centers (one already built in Chimborazo, and the other two will be built in Imbabura, and Loja), and in the provision of technical assistance to communities. The GAD of Chimborazo includes among its objectives the promotion of local agrobiodiversity so it will use the information on local inventories and seed fairs to develop activities for the promotion of agrobiodiversity. At the same time, the GAD of Imbabura will support the provision of technical assistance in diversity based production practices to communities. The financing of the three GADs will amount to USD 430 000 (GADP Loja), USD 900 000 (GADP Chimborazo) and USD 500 000 (GADP Imbabura)

At the local level, the municipal government of Guamote is planning to take part in the strategy for development of the Bio-knowledge Center's and of community banks. Therefore it aims to invest USD 600 000 to support communities with seeds, inputs and training regarding production as well as infrastructure for the Center. At the community level, the UNORCAC has planned to work with INIAP in the implementation of the Bio-knowledge Center as well as to continue promoting the local fairs and building the capacity of the communities for the expansion of agrobiodiversity products in which it has not invested. The financing will be USD 80 000.

Generation of added-value

As mentioned earlier, one of the main obstacles in promoting diverse productive systems as an alternative to the monoculture systems is the lower short-term competitiveness and monetary income of the first. Diverse systems are based on family food self-sufficiency and the sale of surplus assets, while monoculture systems are based on the marketing of the total production and purchasing food of external origin. It is therefore essential, in any program or strategy for conservation of agrobiodiversity, to include options to increase the added-value to products obtained in agrobiodiversity systems. The main strategies employed are to support the marketing of products at trade fairs to expand access to an coverage of the local market, the transformation of products obtained in the plots to processed products with higher added-value, and the linkage of crop production activities to other income-generating activities such as tourism.

In all the areas of intervention of the project there are weekly agroecological fairs taking place in the cantonal main towns where excess surplus from diverse plots are sold, which can reach up to 55% of the production. These market spaces are promoted by the farmer's and producers' organizations (UCOCP in Paltas, CORPOPURUHA in Guamote, CEDEIN in Colta, UNORCAC in Cotacachi, groups of female producers in Otavalo, and La Esperanza Water Board), with the support in many cases of NGOs, provincial or municipal governments or the MAGAP. Each fair involve between 45 and 80 producers selling their goods directly

and formally associated to organize and manage the fairs. On average you can find about 20 products, the majority of which are fresh products (tubers, grains, vegetables, fruit), while also usually find processed products (flour, jams) and traditional food. Based on the information collected for the preparation of this project, each seller gets between USD 17 and USD 22 in revenue from sales of their agricultural surpluses on a weekly basis.

Barrier 7: The low capacity of the agroecological fairs and poor access to marketing. Although the experience of agroecological markets has proved very successful in terms of demand for the products and the income generated for the farmers, there are farmers associated with organizations that do not have access to the fairs and therefore have no direct marketing channels to sell their products to the consumer. Given the high level of demand in the agroecological fairs, it is believed that by improving the capacity of the fairs to include a greater number of producers-sellers as well as services for consumers (improved facilities, equipment, and commercial image) would significantly increase the sales volume that would allow the incorporation of new producers. It is estimated that with this strategy the average number of producers could go from the current 58 to 66 per fair, and that the income derived for each producer could increase by at least 13 %.

Heifer includes among its objectives the promotion of short cycles and local marketing, aligned with principles of food sovereignty, agroecological production, solidarity economy and direct exchange between producer-consumer. Since 2006 the work of Heifer has contributed to the formulation and implementation of Participatory Guarantee Systems (PGS - see annex 7 for more information) as mechanisms of trust between producer and consumer of agro products to generate credibility in organic products and facilitate market access for producers and consumers. The implementation of the PGS includes the necessary procedures to ensure the governance of the system: (i) the standardization of measurement criteria between the organizations and participating families; (ii) the training of outstanding producers in this model as overseers responsible for the evaluation of farms; (iii) the formation of a Technical Committee on monitoring, evaluation and rating of farms; and (iv) the establishment of an Ethics Committee, with participation of producer organizations, consumers, local NGOs, local institutions of higher education and GADs. In particular, Heifer has worked in the implementation of PGS in the Solidarity Economy and Food Sovereignty Network of the Kayambi Territory, the Union of Agroecological Producers' organizations and Trade Associations of Tungurahua and the Agroecological Network of Loja.

Barrier 8: L**ack of local systems to give added value to the products from biodiversity-based crop systems.** Although local fairs sell traditionally-based crop products, the coverage of guarantee systems to provide added value to them is still limited. On the other hand, production processes and practices are not systematically taking into account elements of organic production such as diversity, terraced farming, and quality of inputs, handling and recycling of waste, soil conservation, irrigation, integrated pest and diseases management, and others. This situation prevents farmers' access to an additional value for their products in the market because they lack guarantees that their products come from diversity-based organic system in Ecuador.

The transformation of products from diverse cultivation systems and the sale of processed products is a complementary strategy for income generation and recognition of agrobiodiversity. This strategy has been supported in recent years by the farmer's organization participating in the project, in many cases with the support of external

government institutions or NGOs. In Paltas, for example, UCOCP has small equipment for making artisanal white maize flour and corn snacks, and *panela*. CORPOPURUHA has an artisanal food processing plant in Guamote for making foods based on *chocho* (ice cream, pies, and seeds), quinoa (yogurt) and others. In Colta, CEDEIN has a center for collection and processing of medicinal plants. In Cotacachi, UNORCAC has developed several activities of food processing such as the preparation of *chicha de maize* from local varieties in a processing plant managed by women, the dehydration of native fruits and vegetables (*uvilla, mortiño (aji)* and dehydration and conditioning of medicinal plants. All these micro-enterprises use native species and varieties for their process of production and incorporate traditional knowledge of food processing and conservation. They are managed by the community, with a high level of participation of women, and the majority of the above-mentioned initiatives generate direct jobs (4 persons as an average). The processed products are marketed in communities, in the weekly agroecological fairs, and in some cases are also available for regular wholesale to customers.

Barrier 9: The limited ability of the agro-industrial micro-enterprises in processing and marketing. The infrastructure available is very basic, but generally, is also underutilized due to lack of knowledge of the market opportunities or businesses opportunities for increasing revenues through incorporation of new species and varieties. To take advantage of those opportunities it is essential that the producers increase their skills and knowledge in food processing (BMP, Best Manufacturing Practices), quality and marketing. In addition, to be able to compete in the market it is necessary that these microenterprises have the standards and controls required by the authorities, such as health records.

The growth of community-based tourism, ecotourism, and agritourism in Ecuador in the last few years has been very significant and represents a major opportunity as an income-generating activity complementary to the agricultural production in the communities, as well as a mechanism to raise awareness of the multiple values of agrobiodiversity. Among the existing initiatives of agritourism in the project intervention areas the activities of the UNORCAC in Cotacachi have special relevance. This organization has established an agency for community-based tourism operator, Runa Tupari, which develops activities in community tourism with the active participation of rural communities. With the support of the INIAP these activities have been directed towards a model called "tourism of coexistence", in which tourists will stay in the homes of the families, properly upgraded for this. In this manner the tourist has the opportunity to get to know the cultural practices of the indigenous communities of Cotacachi and the richness of agrobiodiversity and ancestral knowledge linked to it. In the Chimborazo province the CEDEIN develops activities of community-based tourism and ecotourism through two tourist routes, which combine visits to traditional cultivation plots with visits to places of natural and cultural attractions. An agritourismo initiative of interest in the canton of Saraguro is the Onacapac community's development of accommodations in homes and tourist activities related to agricultural traditions, gastronomy and culture.

Barrier 10: The lack of organization and articulation of agritourism routes. Apart from the above-mentioned examples, relevant initiatives in the field of agritourism have not been identified, despite the existence of abundant natural resources and cultural events available for the development of agritourismo in the project areas of intervention. To take advantage of this important potential it is necessary to organize better the agritourism routes to insure the provision of needed services to attract tourism demand and generate additional income in the communities.

With a co-funding of USD 641 760 and USD 269 800, respectively, INIAP and Heifer will provide technical assistance to communities to familiarize them with the Bioknowledge centers, and provide them with seeds, train the farmer families in the use of agrobiodiversity, establish community seed banks and the development of inventories, promote local seed fairs, and acquire inputs and equipment for the creation of agritourism routes. Heifer will also invest in the construction of basic tourist infrastructure.

With several previous experiences, Heifer will work in support of the design and implementation of the SPGs, with an investment of USD 170 000 that will be used for participatory workshops to define criteria for the SPG, inputs such as seeds for farmers' plots, organic fertilizers, purchase of small animals, and veterinary supplies. It will also invest in staff to provide technical assistance, management training and the purchase of materials.

The financing by Heifer will also support the strengthening of community agribusinesses, together with the GAD of Chimborazo Province supporting with USD 14 000.

The General Coordination of Commercial Networks (CGRC) of MAGAP has as its mission to promote strategies deriving from farmers' organizations for alternative marketing with the aim at promoting fair trade for small and medium producers. The guiding principle is to ensure food sovereignty and social relations of exchange and solidarity. In this framework, MAGAP designs and implements strategies for strengthening and promoting alternative marketing channels with an emphasis on local markets and the direct producer-to-consumer approach. The support to the organization, *Agricultura Familiar Campesina* (AFC), is aimed at the promotion, dissemination, equipment provision, capacity building, and infrastructure construction. Based on this, through general expenses, promotion, dissemination, exchange of experiences, market studies and image design for products could be financed. The projected amount form MAGAP is USD 60 000.

In the same manner, CGRC will provide the project with financing of USD 40 000 in support of the agroecological fairs, including the promotion, dissemination, exchange of experiences, market studies and image design for products (marketing alternative in direct channels) and also training in management and administration, negotiation, and value added. In addition, USD 20 000 will be provided to support the implementation of PGSs.

In regard to the activities of support to agritourism routes, the GAD of Chimborazo has offered USD 8 000 for the development of promotional material, while the GAD of Pichincha will invest USD 172 000 in technical assistance, signage and promotional activities. INIAP will contribute USD 8 800 for the purchase of supplies and equipment, and local transport in relation to workshops.

<u>Education and awareness on the values of agrobiodiversity</u>

In order to support and sustain the expansion of the incorporation of the use and conservation of agrobiodiversity in agricultural systems, the key actors in society need to be aware of the benefits of the derived products for the health and future of the development of agriculture. These key players include: decision-makers at various levels (National Assembly, ministries and local governments), teachers of educational centers both rural and urban, and consumers and the general population. This would be achieved through education, awareness and training programs.

No previous significant experiences in the country in the area of public awareness raising on the use and conservation of agrobiodiversity aimed at decision-makers have been identified in the baseline. There are also only few and isolated initiatives related to incorporation of agrobiodiversity in formal education and outreach to consumers. They are generally included in programs of education in agroecology.

One of these projects is being implemented by UNORCAC, farmer-based organization that brings together around 43 indigenous Kichwa communities in the canton of Cotacachi (Imbabura). In collaboration with INIAP, UNORCAC is developing an experience of formal education in perpetuity. In this context, with the participation of the communities, a teaching guide on agrobiodiversity was developed and it is currently being implemented in 17 schools of the canton. There are also various activities to raise public awareness on the use and conservation of agrobiodiversity in communities, led by the educational centers. The Provincial Directorate of Hispanic Education of Imbabura has facilitated the implementation of this guide in more than 20 educational centers. In addition, the Guide is also a didactic and methodological support for the Muyu Muyu project implemented by the Ministry of Education.

Other activities in connection with education and awareness of agrobiodiversity that have been identified in the areas of intervention of the project are the following:

- The Catamayo Corporation project "Improvement of Technical Education in the province of Loja" for training students and farmers in agricultural technologies, including the importance of agrobiodiversity.
- The Department of Environmental Education at the GAD from Loja, in collaboration with the Foundation Nature and Culture has developed initiatives in agroecology which are not included in a program.
- In the cantons Colta and Guamote (Chimborazo) there are some interesting emerging and disaggregated activities on school gardens in educational centers. The main actors are the Local Development Committee of the canton of Guamote, working in collaboration with the municipality of Guamote, and the department of the Environment of the GAD of Chimborazo.
- In Riobamba (Chimborazo) the Utopia Foundation develops activities to promote the consumption of agro products aimed at urban consumers.

Barrier 11: The absence of initiatives to raise awareness on the values of agrobiodiversity aimed at decision-makers in particular.

Barrier 12: The weak diffusion and systematic scaling-up of specific experiences of incorporating agrobiodiversity into formal education. Issues related to nutrition and consumption in relation to agrobiodiversity are not sufficiently covered in previous experiences such as the guide produced by UNORCAC. In addition, it is necessary that these activities are replicated and scaled in a comprehensive manner in the educational centers.

Barrier 13: Low impact of the existing educational initiatives on agrobiodiversity among main consumers. The lack of knowledge of the origin and quality of biodiversity-based crop production prevents consumers from appropriately valuing the products. There

is no differentiation from the other products. One of the main barriers encountered in the existing educational initiatives is that they do not reach their main target because the initiatives do not cover educational centers in the urban centers (canton's main towns and parishes),

INIAP co-financing of USD 5 500 will support the development of a methodological guide and raising awareness of decision-makers. The Provincial Government of Chimborazo will make a contribution of USD 200 000 for the training of teachers in the values of agrobiodiversity, promotion materials, and dissemination campaigns for the conservation and use of agrobiodiversity. At the same, the Pontifical Catholic University-Ibarra will provide USD 60 000 to finance the systematization of the experiences of the project and the promotional campaign on the nutritional value of agrobiodiversity.

MAGAP, within the framework of supporting socially and environmentally responsible consumption through strategies that show close relationship between conservation of agrobiodiversity, agro-ecological farming, and the importance of family-based agriculture, will support the project by implementing an educational and awareness raising program directed to various segments of the population. It will target urban consumers, school system and decision-makers. The projected amount is USD 30 000.

Heifer will support the awareness-raising of decision-makers via the funding of meetings and workshops, with USD 4 000. In working with trainers, Heifer will support the design of the methodological guides with USD 6 000. In addition, a campaign will be carried out on the promotion of agrobiodiversity nutritional value which will receive USD 8000 funding from Heifer.

b) Justification for incremental funding of GEF resources

The incremental investment of GEF resources will, in Component1, finance: the development and validation of a methodology to value the biodiversity of diversity-based farming systems in terms of agricultural, food security, and socio-economic values. This methodology and the data generated will serve as the basis for the formulation and implementation of a public policy proposal at the national level focused on the conservation and sustainable use of agrobiodiversity. It will be incremental to the current legislation base line which has a very general approach. The proposal will include measures and precise norms and regulations for *in situ* and *ex situ* agrobiodiversity conservation; promotion, use and consumption of agrobiodiversity based products; institutional strengthening and capacity building; and farmers' participation in the implementation of the related policies. At the same time, the study on the value of agrobiodiversity will inform the implementation of a regulatory framework that ensures Farmers' Rights. Finally, the experience of Pichincha in developing provincial regulation on sustainable use and conservation of agrobiodiversity will be scaled up to the provinces of Loja, Chimborazo and Imbabura to develop regulations and their integration into their provincial Development of Land Use Plans.

The incremental resources of the project will, in Component 2, finance the scaling up of agroecosystems based on conservation and sustainable use of native agrobiodiversity supported by a better link to and in combination with systematic *ex situ* conservation through the BADCs. The *ex situ* collections will also be expanded with an emphasis on studying and identifying species and varieties having tolerance traits to stresses such as changing climatic conditions, land degradation and other agronomic conditions. These characteristics and their

conservation in plant genetic resources will have an incremental value for other regions with the same challenges facing Ecuador. Likewise, supplemented by the co-financing of INIAP, Heifer, FAO, MAGAP, GADs, and indigenous and farming organizations GEF incremental financing will be invested to consolidate the local socio-economic benefits of the sustainable use of agrobiodiversity to sustain and expand in time the incremental benefits achieved for the global environment. This will include strengthening and scaling-up local fairs initiatives for the sale of products of agrobiodiversity-based products and exchange of seeds, participatory guarantee systems, a proposal for a national label for agrobiodiversity-based products, and agritourism routes and community agribusinesses.

In component 3, the incremental activities, funded by GEF resources as well as resources from the GADs, Heifer and universities partners, will be based mainly on the experiences of UNORCAC in Cotacachi. This experience, in the participatory development and implementation of a teaching guide on conservation and sustainable use of agrobiodiversity, will be upscaled through further development of the contents of the guide and expanding its implementation in educational centers, including the urban educational centers, in the provinces participating in the project.

1.1.2 FAO's comparative advantages

FAO has developed a great working experience in the sustainable use of agricultural biodiversity as a means to improve food and nutritional security, improve soil conditions and resilience of agroecosystems in the face of climate change, pest and disease pressures and market volatility. The Division of Plant Production and Protection of FAO (AGP) has extensive experience in sustainable intensification of agricultural production based on the diversity of crops and the use of the genetic characteristics of resistance to different pressure factors that native varieties offer. FAO's mandate in plant genetic resources for food and agriculture includes the promotion and exchange of seeds and plant genetic material of traditional varieties, improved varieties, crop wild relatives, and other wild, which form the biological basis for food and nutritional security at local and global levels. Its objective is to integrate the concepts of conservation and sustainable use in national policies and strategies to ensure an inclusive response to the needs of farmers and serve as a basis for the sustainable intensification of crop production.

FAO has a role as a world leader in the development and implementation of policies and policy instruments in support of the conservation and sustainable use of agrobiodiversity and the consolidation of human and institutional capacities in this area. The Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture, developed by the FAO's Commission on Genetic Resources for Food and Agriculture approved by the FAO Council in 2011, is a strategic framework for the conservation and sustainable use of the genetic diversity of plants used in food and agriculture. All project activities contribute to the implementation of the Second Plan. In addition, FAO hosts the negotiations of the IT-PGRFA and offers technical support to the signatory states in the development of capacities for its effective implementation.

FAO has been chosen as GEF agency for its active involvement with the central theme of the project in Ecuador. FAO has been active part of the process for the establishment of proposals and studies that have led to a national biodiversity policy and strategy with an emphasis in the policies of agrobiodiversity. In addition, FAO has supported numerous projects aimed at

strengthening agricultural systems and farmers through better use and management of agrobiodiversity. These include: the plan MAGAP-FAO for the management of mountain areas and the development of economic activities which are compatible with the integrated management of the Cutuchi and Toachi river basins; support for the rehabilitation and enrichment of the forest structure necessary for agroforestry systems; project GCP/RLA/ 163/NZE "Recovery and recognition of the ancestral knowledge" related to the use and management of agrobiodiversity; the project TCP/ECU/3203 "Management of high mountain areas for the sustainable development of the watersheds of UNOCANC", under which manuals were developed for organic production of Andean crops, and the project MTF /ECU/ 001/ECF "Agroforestry Family Gardens" which objective was to improve the profitability of the orchards and food security of farm families in Chimborazo, Imbabura and Azuay, through agroforestry gardens.

In addition, the FAO Representation in Ecuador has worked on several projects under the "Telefood"[15] mechanism in support of family farming: TFD-01/ECU/001 community marketing of healthy agricultural products TFD-01/ECU/002 agro-industrial Rural Artisanal for women farmers; TDF-06/ECU/004 Strengthening of the processes of production, post-harvest and marketing organic quinoa made by The corporation of organic producers of Bio Taita Chimborazo (COPROBICH); TDF-07/ECU/001 Production of Organic Vegetables, and TDF-08/ECU/001. Production of barley in the communities Casa Quemada, Vaqueria, Chami of Zumbahua, in Cotopaxi.

1.1.3 Participants and other stakeholders

The Ministry of Agriculture, Livestock, aquaculture, and Fisheries (MAGAP), includes agrobiodiversity in its scope of work, given the close relationship that this has with agricultural production. More specifically, The Direction of Agrobiodiversity includes in its functions to direct and review the consolidation of the inventory information of genetic material; direct and review the consolidation of information on local germplasm and seed banks; promote recovery systems of agrobiodiversity through creation of local germplasm banks (*in-situ* conservation); encourage research for the development of national agrobiodiversity according to potential business opportunities; and propose local strategies to cope with the effects of climate change, reducing losses through the use of appropriate technologies. Additionally, MAGAP is the focal point of the IT-PGRFA in Ecuador. MAGAP, through the General Coordination of Trade Networks, manages and promotes strategies for placing food from farmers' organizations in short cycles with the purpose of motivating more equitable trade relations for small and medium producers. Finally, the General Coordination of Innovation has as objectives to promote the productivity of agricultural systems, reducing production costs, promoting cleaner production, and improve the living conditions of farming families and the conservation of the environment within sustainable production systems. The General Coordination of Innovation has Schools of the Agrarian Revolution with corps supporting practical application of technologies.

[15] The Conference of the FAO, in 1997, established the Special TeleFood Fund (TSF) to fund micro-projects at the grassroots level in developing countries to assign "in its entirety, the proceeds collected through the call for the TeleFood funding for specific projects at the grassroots level" were designed to improve the livelihoods of poor families to increase agricultural production and to promote the value-added, so that they can produce more food and generate actual income, thus enabling them to better access to food. (Http://www.fao.org/getinvolved/telefood/en/)

The National Agricultural Research Institute of Ecuador (INIAP), attached to MAGAP, has been working for 30 years in *ex situ* conservation as a complementary aspect of agrobiodiversity. It has also implemented a National Germplasm Bank with 21 000 accessions, many of which have importance for food security. INIAP has developed a series of projects to ensure the conservation of agrobiodiversity through *in situ* and *ex situ* strategies that have allowed farmers in various areas of the Sierra and the Amazon to improve their quality of life, on the basis of their work with native varieties of plants and animals. International funds have helped to bring about these impacts from the decades of the 1980s and 1990s. Recently, government funds of up to USD 1 000 000 have supported more than 2,000 farmers to preserve its agrobiodiversity. A series of activities has been designed to maximize the benefits of underutilized crops and collect partial stock from several eco-geographical areas with high levels of agrobiodiversity. In the past three years, the Government of Ecuador has invested more than USD 500 000 in the conservation of agrobiodiversity in different geographic areas of Ecuador, which include the north of the Amazon (Napo, Sucumbios and Orellana) and the provinces of Imbabura, Loja and Canar. In these areas, among other activities, markets have been established for the exchange of seeds, native varieties have been recovered that are now being used by local communities, farmers plots for the management of agrobiodiversity have been supported, and plant genetic material has been collected for the *ex situ* conservation, among other activities. This initiative received the Prize of UNDP-Ecuador 2009 as the best initiative for conservation and use of agrobiodiversity. In the next few years, the government will continue this work and will expand with more activities oriented to the maintenance of conservation and use of agrobiodiversity. The project will enable the consolidation of the experiences of the last 30 years in a systematic combination of enhanced *in situ* and *ex situ* conservation of agrobiodiversity. In this context, the main focus will be the varieties with characteristics of tolerance and resistance to pests and diseases, which are crucial for the future adaptation of agroecosystems with the increase in climate variability and scarcity of warter in the Andean region and other mountain regions with similar conditions.

Heifer Ecuador is a non-governmental organization that works in rural development in Ecuador since 1954. It is linked to Heifer International, although since 1993 it has worked as an Ecuadorian NGO. The work of Heifer Ecuador is oriented to agroecology, the management of natural resources by small farmers, and the strengthening of farmer and indigenous groups, with the principles of gender equity and food sovereignty. In this context, its goal is to ensure the reliance of farmers in nutritional terms, promoting the control of the production, technology and knowledge on the part of small farmers, while ensuring the conservation of natural resources and the protection of the diversity in agricultural products. In its Strategic Plan 2007-2012, defined along its strategic line, *to promote sustainable livelihoods and food systems*, one objective is to promote the implementation of short cycles and local marketing, aligned with the principles of food sovereignty, agroecological production, solidary economy, and the producer-consumer direct exchange. In this context it has supported projects in which there were specifically designed tools for assessing progress in organic farming production in farmer's plots measuring in a systematic manner (soil, water, agrobiodiversity, animal diversity, agroforestry and family participation). This tool is used by several indigenous and farmers' organization partners, with adaptations and modifications according to their contexts, but without losing its essential elements[16]. Heifer has extensive experience in PSG systems and has prepared a technical methodology guide for the implementation of PSG (annex 7 to

[16] A document that compiles the methodology for the preparation of the tab, measurement criteria and methods of application, is the "Measurement of the ecological state of chakras in the Cantons Cayambe and Pedro Moncayo" developed by Javier Miralles, intern from the U. of Valencia for Heifer - Ecuador

this docment)[17]. Heifer has also providing technical advice to the GAD of Pichincha in developing the basic document of the Ordinance, "Sovereign and agroecologic Pichincha" and its implementing regulations.

In the areas of intervention of the project (the provinces of Loja, Chimborazo, Imbabura and Pichincha), Heifer has driven 5 projects in the past 3 years, with a total investment of USD 656 863, which benefited about 4,000 families in 28 organizations. These projects have been geared to the sustainable management of natural resources by small farmers and to the promotion and strengthening of agroecological production. In this concept includes the recovery of agricultural biodiversity, the support for commercial activities and strengthening of local organizations and networks of small farmers in terms of political action. With the implementation of agro-ecological projects based on agrobiodiversity, Heifer has ensured the *in situ* conservation of native diversity managed by farmers and the improvement of family nutrition. In addition, the income of farmers has been increased by productivity, diversity and the resilience of the plots and the new marketing strategies including local fairs.

The provincial and municipal institutions that will participate in the project are the following:

- **The public company of Productive and Agriculture Development of the South of the Provincial Government of Loja** (DEPROSUR) has actions related to this project primarily to enhance the farm of Yamana to become research and training centers and has strong links with rural communities of the canton of Paltas.
- **The GAD of Chimborazo** has a strong synergy with the objectives of this project reflected in its mission to lead the provincial development according to its scope of action with institutional capacity, participatory planning, through competitive productive activities with an intercultural approach, solidarity, promoting the management and conservation of natural resources securing equitable and just access and sustainability for quality of life of the population in order to achieve the samak kawsay (Good Live).
- **The GAD of Imbabura** is the institution responsible for the coordination, planning, implementation and evaluation of the Participatory Provincial Development Plan; strengthening productivity, the proper management of their natural resources and promoting citizen participation in order to improve the quality of life of its inhabitants. The objectives of the GAD that are linked to this project are promoting provincial economic development, the implementation of the environmental management system with an intercultural focus, the design of policies, plans and programs, designed to strengthen the social inclusion, and cultural development to allow Imbabura to be an equitable, solidary and intercultural province.
- **The Municipal Government of Guamote** has under its responsibility the Agritourismo Farm of Totorillas whose activities are focused on the production of native crops, training and agrotourism.

[17]These supports have been implemented through the following projects: Strengthening the production and marketing activities of the women of the north-west of the Parish Ayora 2006-2008; consolidation and streamlining of a national network of solidarity economy linking field and city. 2006-2009; Strengthening agroecology, the management of natural resources and the organization in the north of Ecuador. 2008-2011; "seeds of life, recovery, conservation and promotion of native crops and local varieties"; Peasant Marketing with families of indigenous and campesino organizations of Imbabura and Pichincha. 2008-2011; Agroecological production, marketing, defense of the paramo and water in Cotopaxi, Tungurahua and Chimborazo. 2009-2013

- **The Municipal Government of Saraguro** supports communities with machinery and services for the production of Andean crops, mainly potatoes and corn.

At the field level, the project will be carried out together with local indigenous and small farmer's organizations, in order to maximize the impact and effectiveness of actions and strengthen local capacities in management and conservation of agrobiodiversity. The active participation of civil society ensures the sustainability of the project, given that their involvement allows project execution to respond to their needs and expectations. The local organizations, that will collaborate in the project, are as follows:

- **Union of Peasant and Indigenous Organizations Cotacachi (UNORCAC)**, an organization formed by indigenous communities, mestizo and afro-Ecuadorian in the western zone of Imbabura, with extensive experience in conservation and recovery of agrobiodiversity. It is working with 45 communities of the parishes of St Francis, Tabernacle, Imantag and Quiroga, in the canton Cotacachi. The organization has a history of more than 35 years. The activities of the project will link to the association of agroecological producers, "Pachamama nos alimenta", the central committee of women, the Association of Producers Samak Mikuy, and the Saramama Cotacachi Association.
- **The Center for Multicultural Studies (CEPCU)**, an indigenous NGO with headquarters in Otavalo. It has been working since 1992 through agreements with NGOs and national and international Cooperation in the Imbakucha watershed (San Pablo Lake) coordinating its activities with farmer organizations in the area. They support the weekly fair for marketing agroecological products of Imbabio, consisting of about 45 women producers linked to the agroecological fair from the city of Otavalo. It has 8 years of experience in agroecological production in the parishes of Quichinche, Espejo, González Suárez, and Darios Egas, in the canton of Otavalo.
- **La Esperanza Water Board,** a farmers' organization that brings together 858 families in the parish. Founded 33 years ago, it includes several working groups including a cooperative of agroecological gardens, and a school and local fair for agroecology.
- **Center for Indigenous Development (CEDEIN),** an indigenous Kichwa foundation with extensive experience in implementation of rural development projects. It supports the agroecological production of some 290 families in 32 communities of the cantons Colta and Guamote.
- **CORPOPURUHA,** a peasant organization. It has worked since 2010 in the parishes of St Peter and the canton Mushucpacari Guamote, in the production and management of seed in community banks. It has 250 members.
- **Cantonal Union of Peasant Organizations Palta (UCOC-P),** a second level farmer organization that brings together 11 organizations based in the parishes of the Catacocha Lourdes in the canton of Palta, covering 220 families. It has 9 years of experience.
- **The Agroecological Network of Loja (RAL)** is a collective with a track record of more than 10 years in the province of Loja. It consists of 9 grassroots organizations and has 125 families of agroecological farmers. Currently, 25 producers sell their products on a rotational basis in three weekly agroecological fairs in public spaces in coordination with the Municipality of Loja.

The project also includes the participation of three academic institutions:

- The Faculty of Natural Resources at the **Polytechnic Higher Education School of Chimborazo (ESPOCH)** through its schools of Agronomy and Ecotourism promotes education in areas of knowledge related to native crops of the region and to the rural tourism in the area.
- **The Technical University of Loja (UTPL)** has an area of research in biology and biomedical research programs in biodiversity and utilization, quality and safety of the food, food security, functional foods and nutrition, diversity and ecosystems and agricultural research.
- **The Pontifical Catholic University of Ecuador, Headquarters Ibarra (PUCE-SI)** in its academic structure it has the School of Agricultural and Environmental Sciences, one of the most important components of which is the PUCE-IF genebank.

1.1.4 Lessons learned from past and related work, including evaluations

Below are the lessons learned that have been taken into account in the design of the components, presented in section 2, in the four areas of intervention of the project.

Public Policies

One important lessons learned from the poor implementation of the proposals provided in the chapter of agrobiodiversity of the National Biodiversity Strategy (MAE, 2000). The strategy did not achieve its implementation because it was not complemented with an action plan with clear targets and a follow-up mechanism to assess its progress. The strategy was also not integrated within a national planning tool that would allow broader implementation in the different bodies and levels of government. For this reason, any strategic tool related to agrobiodiversity for the country must have an agreed plan of action that contains indicators and their time-bound targets, evaluation mechanisms, monitoring, and budget. In addition, it should be in line with the National Plan of Good Living (PNBV).

The analysis of the implementation of policies in the scope of this project concludes that a public policy that incorporates sustainable use and conservation of agrobiodiversity must be linked to the vision of food sovereignty for its importance regarding the provision of food for domestic consumption and food security. At the same time, rules concerning the promotion of the *ex situ* and *in situ* conservation, incentives for the production in agroecological systems, and mechanisms for the recognition of farmers' rights must be included.

To ensure that the policies are efficiently implemented they must be accompanied by an institutional agreement that allow for collaboration between key institutions and the commitment to work together that will be translated into an effective framework for the sustainable use and conservation of agrobiodiversity. In particular, the policy should define the competencies of MAE and MAGAP and its interinstitutional coordination.

At the local level, the regulation for the promotion of production of agroecology in Pichincha offers an example of a model of agile management that promotes participation. This model is based on a participatory approach to the development of the provincial ordinances, in which associations and groups of agroecological producers are actively involved with the local authorities. This process allows the social ownership of the policy, both in terms of its preparation and implementation.

Conservation, management and use of *in situ* and *ex situ* agrobiodiversity.

One of the main lessons learned from the actions undertaken previously in the field of promotion of the conservation of agrobiodiversity is that the involvement of the peasant organizations and local governments in all the phases of the projects is crucial, because it allows the empowerment of these key stakeholders and ensures the permanence and sustainability of achieved results. The genetic resource conservation projects, that have been identified in the project intervention areas, have mostly had an academic and research approach without including among its objectives the food and nutritional security and the socio-economic development of communities and families. As a result the communities have not taken ownership of the projects, and an important element of sustainability was lost. At the same time, throughout the country there have been numerous projects implemented with the objective of improving nutrition through the implementation of school and family gardens giving priority to species and introduced varieties that were not in common use by farmers nor part of traditional diets. These activities were not appropriate for the local actors and thus disappeared when they were completed.

A common element, in all the analyzed experiences, is that the presence of greater agricultural diversity occurs in communities and families that practice subsistence farming on small land holdings. In these systems the production is intended primarily for home consumption, and is related to the wealth of local knowledge in gastronomy and cultural practices of feasts and rituals belonging to the indigenous cultures. The experiences in promoting agroecologically biodiverse plots in these systems have proved to be a viable option that provides a series of good practices in conservation of agrobiodiversity and allows the farmers to recover their traditional production systems as the basis for the production of food for home consumption.

The fairs for the exchange of seeds are events that are received well by farmers and are closely related to their cultural identity. Rescuing seed exchanges is seen as an ancestral practice. The fairs began to be carried out primarily for the purpose of giving exposure to agrobiodiversity and to gain an understanding of the situation, but quickly gave rise to the need to turn them into genuine fairs of exchange where farmers could access varieties, missing in their communities, or to other new ones. Contributing to the success of the fairs is also the inclusion of gastronomical events and crafts, as well as the implementation of mechanisms to recognize farmers that demonstrate greater diversity of crops. The participation of municipal governments has also been positive.

Rural women play a very important role for the conservation of native varieties in the plots. In initiatives it is found that there is a high level of participation by women's organizations, both in the fairs of producers, such as in the seed fairs[18], and in the gastronomic and cultural events.

The complementarity of *in situ* and *ex situ* conservation has been a positive experience that has led to closer links between the research institution INIAP and farmer's organizations. This has facilitated the exchange of germplasm: on the one hand, the collection of species and varieties of interest to expand the collections of the National Bank of germplasm, and on the other hand, the restitution of materials of the Bank toward the communities.

Added Value Generation

[18] As an example, in the fair of seeds of Cotacachi more than 80% of the participants are formed by women producers.

The agroecological fairs have proven to be an important space for income generation for farmers, because they can be easily accessed and do not have mechanisms of exclusion or homogenization of conventional markets. The sale of surplus agricultural production in agroecological fairs currently generates between 17 and 22 USD per seller for each weekly fair. The support to these fairs through investment in improvement of human and physical capabilities is a cost-effective and viable option to improve farmers' income from products derived from diverse production systems. Similarly, the transformation of the surplus of farmer production in processed products for sale, has proven to be an profitable and sustainable income-generating initiative, in addition to contributing to the conservation of agrobiodiversity through its sustainable use, generate direct employment in rural areas and communities, and promote the consumption of local products.

The study of the existing initiatives of agritourismo in the project intervention areas concludes that this form of tourism, which highlights and displays cultural practices of the indigenous communities, represents a significant contribution to the conservation of the wealth of agrobiodiversity and ancestral knowledge to which they are linked. Crucial aspects of these initiatives are the direct participation of the families, and mainly the women and young people, the external technical expertise to optimize the use of opportunities, the internal organization of the communities and the support of local authorities.

Education and awareness on the values of agrobiodiversity

The activities that the UNORCAC is developing in Cotacachi for education in agrobiodiversity constitute a fundamental reference for this project. One of the factors of the success of this project was the integrated work between the farmer-based organization and the teachers of the school centers. The approach to give leadership to the teachers in the development of the teaching guide and the support of the Provincial Directorate of Education was fundamental and contributed to the sustainability of the project.

It was also very useful to have spaces in the educational centers for the application of materials, where both teachers and students are involved in knowledge, reflection and awareness processes, for its later dissemination to families and communities. In this regard, the strategy to take advantage of formal education in educational institutions to transmit knowledge to community has proven to be effective, in this case related to the conservation and sustainable use of agrobiodiversity. The good results of the implementation of this methodology in rural communities should be possible to replicate in urban educational centers where there is greater education among the consumer population.

1.1.5 Links to national development goals, strategies, plans, policy and legislation, GEF and FAO's Strategic Objectives

a) Alignment with national development goals and policies

The Constitution of Ecuador (CPE, 2008) makes explicit reference to the use and conservation of agricultural biodiversity and its associated traditional knowledge, in the framework of food sovereignty (Article 281.6). It also emphasizes the state sovereignty over biodiversity (Art. 400) and prescribes that the conservation of biodiversity and of genetic resources is of public interest (Arts. 14, 400). In the consideration of biodiversity and genetic

resources as a strategic sector, the state has exclusive control and authority on these resources and therefore has the right to rule, regulate, control and manage the sector (Art. 313). Biodiversity is also addressed in the chapter on the collective rights of indigenous communities, peoples and nationalities, recognizing and ensuring their right to preserve and promote their practices of management of biodiversity and its natural environment (Art. 57.8). While the CPE does not make explicit reference to Farmers' Rights as defined in the IT-PGRFA, it includes as a duty of the state the promotion of the use, the conservation and the free exchange of seeds (Art. 281.6). The objectives and approach of the project are therefore consistent with the CPE.

The project is also aligned with the 2013-2017 National Development Plan, named National Plan for Good Living (*Plan Nacional del Buen Vivir*, PNBV). Strategies prioritized in the Plan include strengthening food sovereignty and sustainable use of culturally appropriate food thus enabling the reduction of imports (6.8); the relevance of seed banks to provide knowledge, classify, review, and generate social added value and protect the natural heritage of Ecuador (6.5); the sustainability, conservation and increased knowledge of the natural heritage and the promotion of community-based tourism (6.10); as well as territorial management and development, decentralisation and de-concentration (6.11). Policy 1.4 states the need to establish genebanks to conserve seeds and varieties and to promote its free exchange, as well as the importance of technical assistance, training and transfer of scientific, technical and traditional knowledge in order to enhance innovation and improvement of production systems. Policy 1.8 addresses the promotion of productive activities to improve the living conditions of the rural population and to stimulate the generation of added value, as well as the promotion of markets with short distribution channels linking producers and consumers. Finally, the objective of policy 4.1 is to promote research, education, training, communication and technological development for the sustainability of production processes and the conservation of biodiversity, and to preserve, restore and protect agrobiodiversity, the genetic heritage of the country, and the associated traditional knowledge.

The General Law on Food Sovereignty (*Ley Orgánica del Régimen de la Soberanía Alimentaria*, LORSA, 2009) includes specific chapters related to the protection of agrobiodiversity, the free exchange of seeds, the research on food sovereignty, the institutionalization of research, the safeguarding of traditional knowledge, the promotion of organic production in agriculture, the promotion of cooperative rural agro-industries, as well as incentives for the consumption of high nutritional quality food with better nutrition values. The project is therefore aligned with this Law.

b) Alignment with the National Biodiversity Policy and Strategy 2001-2010

In 1992, Ecuador ratified the United Nations' Convention on Biological Diversity and in 2000, in compliance with its commitments, the National Biodiversity Policy and Strategy 2001-2010 (*Política y Estrategia Nacional de Biodiversidad*, PENB) and its Action Plan were adopted. Both are currently in force while the new Strategy for the period 2014-2020 is being developed. The PENB, in its strategy "Strengthening and supporting sustainable productive activities based on the use of native biodiversity", addresses the sustainability of agricultural and livestock production, the enhancement of diversification in agricultural production, the adoption of environmentally safe technologies and the efficiency of genebanks, in order to ensure the conservation of agrobiodiversity. Also, the PENB includes the sharing of the benefits derived from the sustainable use of biodiversity in local communities through, for example, the expansion of the sustainable community-based tourism. This project will

contribute to the diversification of production based on the native agrobiodiversity by supporting its management in farms, local seed exchange fairs, local markets for products from agrobiodiversity, and agro-tourism, with the view to facilitating an increased added value of products of agrobiodiversity. In addition, the project will support the expansion of the coverage of the collections conserved in the INIAP National Genebank.

The project will contribute to the following Aichi Biodiversity Targets: Target 7 "*By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity*"; Target 13 "*By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity*", and Target 18 "*By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels*."

c) Alignment with GEF Biodiversity Strategy

The project is consistent with GEF-5 Biodiversity Strategy objectives BD-2 "Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sectors" and BD-4 "Build Capacity on Access to Genetic Resources and Benefit Sharing".

Component 1 will contribute to objective BD-2, outcome 2.1 by: (i) developing public policies and plans at different governmental levels incorporating measures for the conservation and sustainable use of agrobiodiversity, and (ii) integrating the assessment, use and conservation of agrobiodiversity in provincial regulations as well as in development and land use plans. In addition, component 1 will contribute to objective BD-4, outcome 4.1 by implementing at national level the International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA) which facilitates access to genetic resources of agrobiodiversity and sharing the benefits derived from their use. This will include: (i) a review of the implementation of Farmers' Rights in Ecuador, identifying opportunities to expand the implementation of these rights, (ii) a proposed plan for the implementation of Farmers' Rights by relevant national authorities, and (iii) an awareness campaign to promote Farmers' Rights in accordance with the IT-PGRFA addressed to small farmers and indigenous organizations.

Component 2 will contribute to objective BD-2, outcome 2.2 by: (i) incorporating the use and conservation of agrobiodiversity in agricultural systems in 5 small-scale indigenous organizations, through participatory research, local inventories, seed exchanges, establishment of seed banks and strengthening Bio-knowledge and Agricultural Development Centers; (ii) incorporating products from agrobiodiversity in local markets and agro-tourism initiatives, including the development of Participatory Guarantee Systems, which ensure that the products have been obtained following good practices for the conservation of local agrobiodiversity; and (iii) expanding the coverage of the INIAP National Genebank collections for research and *ex situ* conservation in order to ensure their future use in Ecuador and in other countries.

Component 3 will also contribute to objective BD-2 by: (i) creating awareness among decision makers of four governmental bodies (National Assembly, Ministry of Agriculture, Ministry of Environment and Ministry of Economic and Social Inclusion) on the ecological, nutritional, cultural and economic values of agrobiodiversity; (ii) building capacity in local schools, technical schools and community organizations to support the use of agrobiodiversity in local diets; and (iii) promoting the relevance of food sovereignty and security and the benefits offered by the conservation and use of agrobiodiversity among the urban and rural population in the project areas.

d) Alignment with FAO Strategic Framework and Objectives

The Strategic Framework of FAO, as reflected in the Organization's Medium Term Plan 2014-17, is inspired by a common vision of a world free from hunger and malnutrition, where food security and agriculture contribute to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner. The Framework includes five Strategic Objectives (SO), which represent the main areas of work of FAO. A set of Organizational Outcomes (OO) contribute to the achievement of each SO.

The project is aligned with the FAO Strategic Framework and in particular with SO-2 "*Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner*".

Component 1 is consistent with SO-2, OO-2[19], by: (i) developing public policies and plans at different governmental levels incorporating measures for the conservation and sustainable use of agrobiodiversity; and (ii) integrating the assessment, use and conservation of agrobiodiversity on provincial regulations and development and land use plans. Component 1 will also contribute to SO-2, OO-3[20] through the implementation at national level of the IT-PGRFA.

Component 2 will contribute to SO-2, particularly to OO-1[21] and OO-4[22], by: (i) expanding and doing research on the Andean agrobiodiversity conserved in the National Genebank for its future use in benefit of Andean communities and of those of other agro-ecosystems; (ii) incorporating the sustainable use and management of agrobiodiversity in agricultural systems, thus increasing agrobiodiversity in the farms and the living standards of rural families; and (iii) the implementation of Participatory Guarantee Systems verifying that productive systems follow good practices of *in situ* management of agrobiodiversity.

Finally, component 3 is consistent with SO-2 by providing information and awareness to decision makers from governmental bodies on the ecological, nutritional, cultural and economic values of agrobiodiversity.

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[19] SO-2, OO-2: "*Stakeholders in member countries strengthen governance – the policies, laws, management frameworks and institutions that are needed to support producers and resource managers – in the transition to sustainable agricultural sector production systems."*

[20] SO-2, OO-3: "*Stakeholders develop, adopt and implement international governance mechanisms and related instruments (standards, guidelines, recommendations, etc.) which are needed to improve and increase provision of goods and services in agricultural sector production systems in a sustainable manner.*"

[21] SO-2, OO-1: "*Producers and natural resource managers adopt practices that increase and improve the provision of goods and services in agricultural sector production systems in a sustainable manner*."

[22] SO-2, OO-4: "*Stakeholders make evidence-based decisions in the planning and management of the agricultural sectors and natural resources to support the transition to sustainable agricultural sector production systems through monitoring, statistics, assessment and analyses.*"

SECTION 2 – PROJECT FRAMEWORK AND EXPECTED RESULTS

2.1 PROJECT STRATEGY

In response to the problems described above, the project will focus on the integration of conservation and sustainable use of biodiversity of native crop species and varieties in agro-ecosystems in the Andean highlands Ecuador. It will use its associated knowledge, both in *ex situ* collections for research and future use in farms managing sustainable production systems. To this end, a major focus will be the scaling-up, development and integration of the activities and good practices that local and indigenous organizations are developing with the support of public institutions and civil society organizations for the protection and development of biodiversity-based production systems. The project will also strengthen the linkages of these systems and their needs with the work on conservation, research and development of plant genetic resources undertaken by INIAP. It will also take into consideration the policies and legal frameworks with direct impact in this subject, as well as raising awareness in society on the importance of agrobiodiversity for food and nutrition security, ecosystem protection, subsistence of cultures and traditional knowledge, and income generation.

Three areas of intervention in four provinces of Ecuador have been selected for the project based on the following criteria: (i) areas with traditional systems managing agrobiodiversity globally significant; (ii) presence of different agro-ecosystems of the Andean region; (iii) high diversity of Andean grains, fruits and roots; and (iv) high cultural diversity. The four provinces include a range of Andean agro-ecosystems that enable the conservation of varieties with adaptation traits to biotic and abiotic stresses at global level (see Section 1.1 and in particular Table 1.1).

The project will make use of the extraordinary wealth of ecosystems and agrobiodiversity in these Andean provinces and their associated indigenous knowledge, to transform their agro-ecosystems in living banks of plant genetic diversity continually changing and conserving important varieties and genetic traits. This conservation *in situ* will be backed by *ex situ* duplications in the National Genebank. In this context, the project aims at scaling-up the sustainable implementation of good practices for the conservation and sustainable use of agrobiodiversity in farmers' fields. It will also contribute to ensure the long-term conservation of a number of native varieties in risk of disappearing through its collection and preservation in the National Genebank. The study of these materials will help in the identification of traits resistance to drought and other environmental and biotic pressures faced by dry-land and mountain agro-ecosystems, of great importance for Ecuador and other countries. Finally, the linkages between *in situ* management and use systems and the *ex situ* conservation and research system will be strengthened through Bio-knowledge and Agricultural Development Centers that will enhance the relationships and feedback between both systems.

In order to increase the socio-economic benefits and therefore the sustainability of agrobiodiversity management and use strategies, mechanisms for generating products with added value will be promoted, through facilitating the access to and improving the services of marketing channels, as well as linking the agricultural production activity to other income-generating activities such as tourism.

The project also addresses the incorporation of specific provisions for the conservation and sustainable use of agrobiodiversity in policies and strategies at national level (implementation

of the chapter on agrobiodiversity of the National Biodiversity Strategy, policy proposals on agrobiodiversity and Farmers' Rights) and at local level (provincial ordinances and development and land use plans), in the framework of food sovereignty and in line with the current legislation. The project will also seek to reach the general public by promoting the importance of agrobiodiversity and its services, the threats it is facing and the measures for its conservation and sustainable use. Special attention will be given to formal education with the integration of the importance and values of agrobiodiversity in schools.

The loss of agrobiodiversity can be avoided through joint actions between researchers, civil society and farmers. For this reason, the project will work in strategic partnership among the public sector (ministries and local governments), research and development institutions (INIAP), civil society (Heifer-Ecuador) and local, indigenous and farmers' organizations in the four provinces. The direct project beneficiaries will be farmers and local indigenous organizations, located in areas with high rates of poverty and food insecurity and also with an abundant richness in agrobiodiversity.

2.2 PROJECT OBJECTIVES

Biodiversity and its associated knowledge are essential for food security and the conservation of the diversity of cultivated plants is critical to overcome future climate challenges, soil degradation and water shortages, especially in Andean regions and other regions with similar agro-ecosystems. Therefore, **the objective of the project** is to integrate the use and conservation (ex situ and in situ) of agrobiodiversity in policies, farming systems and education and awareness programs of Ecuadorian highland provinces of Loja, Chimborazo, Pichincha and Imbabura with the aim to contribute to the sustainable management and resilience of agro-ecosystems in the Andean and other similar mountain dry-land regions.

The specific objectives are: (i) to integrate the conservation and sustainable use of agrobiodiversity in public policies and provincial development and land-use planning instruments and their implementation; (ii) to scale up existing good practices of *in situ* management and sustainable use of agrobiodiversity and strengthen their coordination and interaction with *ex situ* conservation and research activities; and (iii) to educate and raise awareness among decision-makers, teachers, students and consumers about the environmental, nutritional, cultural and economic values of agrobiodiversity.

2.3 EXPECTED PROJECT OUTCOMES

The expected outcomes of the project are:

Outcome 1.1 *Public policies and national plans incorporate measures for the conservation and sustainable use of agrobiodiversity*.
Target: One (1) policy, one (1) action plan and three (3) related instruments developed and under initial implementation.

Outcome 1.2 *Progress in the implementation at national level of the International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA), which facilitates access and benefit sharing of genetic resources*.
Target: Article 9 of IT-PGRFA on Farmers' Rights under implementation.

Outcome 1.3 *Land managed under Development and Land Use Plans (DLUP) and GAD's regulations integrate the value, sustainable use and conservation of agrobiodiversity*.
Target: Three (3) DLUP and three (3) GAD regulations in Loja, Chimborazo and Imbabura managing 9,000 hectares.

Outcome 2.1 *Coverage of Andean diversity at the National Genebank has been increased taking into account abiotic and biotic stress factors, important to overcome future climate challenges, and exchange of materials between the Genebank and farmers has been strengthened*.
Target: 210 accessions collected, new material of fifteen (15) major crops important to respond to stress factors in the Andean region and similar systems accessible to local farmers and research centres in Ecuador and other countries.

Outcome 2.2 *Farmers and indigenous organizations incorporate the sustainable use and management of agrobiodiversity in agricultural systems, thus increasing agrobiodiversity in the farms and the living standards of rural families*.
Target: Five (5) organizations incorporating the management of agrobiodiversity in fifteen hundred (1,500) hectares, increasing the diversity by 40% and the living standards for men and women (measured through qualitative surveys disaggregated by gender).

Outcome 2.3 *Productive lands under Participatory Guarantee Systems ensuring the cultivation under good practices of in situ management of agrobiodiversity, supported and sustained by local networks of indigenous small and medium farmers and producers.*
Target: Nineteen hundred (1,900) hectares of productive land (representing 7% of the agricultural area of the cantons covered by the project) under PGS with the support of five (5) local networks. Women participation at least 50%.

Outcome 2.4 Increased family income by increasing the added value of products derived from agrobiodiversity and other economic activities related to agrobiodiversity.
Goal: The average annual income of the 1000 participating families will be increased by 15% at the end of the project (measured through questionnaires filled out by all the participating families at the beginning and end of the project and disaggregated by gender).

Outcome 3.1 *Governmental decision-makers are informed and aware of the ecological, nutritional, cultural and economic values of agrobiodiversity.*
Target: 60 decision-makers (at least 40% are women) of four (4) governmental agencies (National Assembly, MAGAP, Ministry of Education and MIES) informed and aware).

Outcome 3.2 *Strengthened capacities of local and technical schools for providing education and awareness raising in the importance and use of local agrobiodiversity in local diets*.

Target: Thirty (30) schools educating and creating awareness among two thousand (2,000) students.

Outcome 3.3 *Urban and rural population of the intervention areas recognizes the value of local agrobiodiversity and consume products derived from it*.
Target: 28.5% increase in the sales of 7 local market fairs of agrobiodiversity derived products (achieved jointly with outcomes 2.3 and 2.4).

2.4 PROJECT COMPONENTS AND OUTPUTS

To achieve the objectives and expected outcomes, the project is structured in three components and 27 subcomponents, as presented in Table 2.1 and described in detail below:

Table 2.1. Components and subcomponents of the project *Mainstreaming of the use and conservation of agrobiodiversity in public policies through integrated strategies and in situ implementation in four provinces in the Andean highlands*

Component 1: Integrating the sustainable use and conservation of agrobiodiversity in public policies and their implementation
1.1 Development and implementation of the National Action Plan for the agrobiodiversity component of the National Biodiversity Strategy
1.2 Coordination among Ministries and Decentralized Autonomous Governments on issues related to policies for the promotion and conservation of agrobiodiversity
1.3 National policy for the conservation and sustainable use of agrobiodiversity
1.4 Methodology for the assessment of diversity in traditional biodiversity-based farming systems
1.5 Progress in the implementation of Farmers' Rights in Ecuador
1.6 Information campaign on Farmers' Rights
1.7 Provincial ordinances on conservation and sustainable use of agrobiodiversity
1.8 Integration of the value, sustainable use and conservation of agrobiodiversity in Provincial Development and Land Use Plans
Component 2: Scaling up of good practices in the *in situ* and *ex situ* conservation and sustainable use of agrobiodiversity
2.1 Establishment and expansion of crop collections in the National Genebank
2.2 Collaboration between farmers and indigenous organizations and INIAP
2.3 Training farmers on *in situ* management and use of agrobiodiversity
2.4 Local inventories and community registers of agrobiodiversity
2.5 Formalization and support to local seed fairs
2.6 Establishment and strengthening of Bio-knowledge and Agriculture Development Centres and community seed banks
2.7 Development of Participatory Guarantee Systems for good practices for *in situ* agrobiodiversity management
2.8 Training of farmers on Participatory Guarantee Systems and good practices for *in situ* agrobiodiversity management
2.9 National label for products from biodiversity-based farming systems
2.10 Strengthening local market fairs for agrobiodiversity products
2.11 Strengthening local community agribusiness
2.12 Development of agro-tourism routes

Component 3: Education and awareness of decision-makers, teachers and consumers about the environmental, nutritional, cultural and economic value of agrobiodiversity

3.1 Information and awareness-raising among decision makers on the importance of agrobiodiversity
3.2 Methodological Guide for education in the values of agrobiodiversity
3.3 Training of teachers in the values of agrobiodiversity
3.4 Incorporation of agrobiodiversity in schools curriculum
3.5 Dissemination materials promoting the value of agrobiodiversity
3.6 Documentation of all project experiences
3.7 Campaign to promote the conservation and use of agrobiodiversity

Component 1: Integrating the sustainable use and conservation of agrobiodiversity in public policies and their implementation

The objective of this component is to integrate the sustainable use and conservation of agrobiodiversity in public policies and provincial development and land-use planning instruments at national and local levels, and their implementation. Key elements in the development of proposals will include the coordination with national and local authorities, the participation of stakeholders, especially farmers, and food sovereignty and gender approaches. To ensure sustainability of the activities, the policies will be incorporated into the existing planning instruments at national and provincial levels.

The objective will be achieved through the following subcomponents:

1.1 Development and implementation of the National Action Plan for the agrobiodiversity component of the National Biodiversity Strategy

It is anticipated that the review of the National Biodiversity Policy and Strategy (NBPS) will be completed by December 2013. Subsequently, the Plan of Action of the NBPS will be developed establishing targets, monitoring mechanisms and a mechanism for inter-institutional coordination describing specific responsibilities and commitments of each institution (MAE, MAGAP, INIAP). The project, with the co-financing support from the Technical University of Loja (UTPL), will contribute to the preparation of the Action Plan for the agrobiodiversity component of the NBPS, through seven regional consultation workshops. The process of developing the Action Plan is designed to have a significant social involvement and its completion is planned by October 2014. This activity will be undertaken by INIAP.

Once the National Action Plan is developed, the project will support, with GEF funding, the establishment of an inter-institutional working group on agrobiodiversity with broad social participation, in order to support and provide feedback to the NBPS policies and follow up on their implementation. The working group will include the participation of the institutions involved in the preparation of the Plan. In order to broaden the range of sectors participating in the working group, other stakeholders will be incorporated, as appropriate. This activity will be conducted by INIAP and will continue throughout the entire project period.

It should be noted that INIAP and MAGAP will participate in the process of developing the NBPS as governmental agencies, and Heifer will participate as part of the civil society.

➔ Output 1.1.1. *National Action Plan for the implementation of the agro-biodiversity component of the National Biodiversity Strategy, including provisions for monitoring its progress.*
Target: One (1) Action Plan developed

1.2 Coordination among Ministries and Decentralized Autonomous Governments on issues related to policies for the promotion and conservation of agrobiodiversity

As mentioned above, the Action Plan for the agrobiodiversity component of the NBPS will include the designation of responsibilities of the various institutions. To ensure the accomplishment of the commitments, the project will provide a mechanism for coordination among public institutions with different policy and legal mandates related to agrobiodiversity (INIAP, MAGAP, MAE, SENPLADES and GADs), through quarterly meetings. Additionally, a secretariat will be established to follow up the implementation of the decisions, the progress made and the outstanding issues. The secretariat will also facilitate the exchange of information on activities and field projects concerning sustainable use and conservation of agrobiodiversity, that the participating institutions are involved in. INIAP will be in charge of the coordination of this mechanism.

➔ Output 1.1.2. *Mechanism for the coordination and strategic partnerships among INIAP, MAGAP, MAE, SENPLADES and Decentralized Autonomous Governments on policies for the promotion and conservation of agrobiodiversity.*
Target: One (1) Coordination Mechanism established and operational.

1.3 National policy for the conservation and sustainable use of agrobiodiversity

The Ecuadorian current legislation (Constitution, LORSA, NBPS) include provisions for the conservation and use of agrobiodiversity. However, the approach is very general, covering different subjects and designating shared responsibilities between the Ministries of Environment and Agriculture. So far there is no specific secondary legislation focused on the conservation and sustainable use of agrobiodiversity setting clear institutional mandates, incentives and penalizations. During the first year of the project a proposal of national policy focused on the conservation and sustainable use of agrobiodiversity will be developed. As a previous step, an analysis of the possible options for incentive systems for the use and conservation of agrobiodiversity will be prepared for its incorporation in the proposed policy. The analysis will include: a review of the current legal framework on the subject in Ecuador, a study on the legislation in force in other countries, a compilation of successful incentive programs for *in situ* conservation, an assessment of the functional structure of the involved organizations, and others as appropriate.

The draft policy proposal will include provisions on:

a) Conservation of agrobiodiversity, both *ex situ* (regulations or procedures on genebanks in the country, *ex situ* collections, operating structure, standards for germplasm conservation, documentation, financing) and *in situ* (surveys and inventories, agrobiodiversity registers, incentive options for *in situ* conservation, seed banks, seed exchange fairs, promotion of *in situ* management of crop wild relatives and wild food

plants, simplified programs for delivery of genetic material to farmers, information and documentation systems for local varieties and wild plants).

b) Promotion and utilization of agrobiodiversity: promoting diversification of agricultural production and increased crop diversity for sustainable agriculture, incentives and production services for organic agriculture systems, participatory plant breeding, promoting development and marketing of all varieties (however, primarily local varieties and underutilized species), consumer education, promotion of cultural practices related to the nutritional, medicinal and ritual uses of agrobiodiversity.
c) Institutional and human capacity: responsibilities of and coordination mechanisms among the governmental entities involved, proposals for networks to promote and strengthen agrobiodiversity, capacity building on managing information and documentation on agrobiodiversity, information and awareness-raising among the public in general on the importance of agrobiodiversity.
d) Participation: mechanisms of participation of farmers in policies related to the use and conservation of agrobiodiversity.

The policy proposal will be complemented with a strategy to follow up on legal proposals presented for discussion and relevant to the conservation and utilization of agrobiodiversity. During the project period the adoption of two regulations that could be directly related to the topic is expected: the Environmental Code to replace the Biodiversity Law (2000) and the revision of the various laws related to food sovereignty, land, water, agrobiodiversity and seed which presumably will be addressed under a single legal framework.

Starting from the second year of the project, the proposal will be validated through regional workshops organized for this purpose, and submitted for consideration to various forums such as the National Assembly, the MAGAP, the Pluri-national Conference for Food Sovereignty (COPISA) and other public forums.

MAGAP will the responsible institution for this subcomponent.

➔ Output 1.1.3. *Proposal for national public policy addressing the conservation and utilization of agrobiodiversity.*
Target: One (1) proposal developed and validated.

1.4 Methodology for the assessment of diversity in traditional biodiversity-based farming systems

During the first year of the project and under the coordination of Heifer, a methodology to assess the value of diversity in biodiversity-based farming systems will be developed, in order to establish a set of quantitative and qualitative indicators. The purpose of the value assessment is to make the information collected from these indicators available to support and strengthen proposals for public policy. The methodology will also support the work of MAE in relation to the NBPS, and will be developed in coordination with MAE.

The assessment methodology will include indicators in the following areas:

- Agriculture: agricultural practices, land use, agrobiodiversity, access to irrigation, production.
- Socioeconomic: number of workers on the farm, investments and income (rate of return, if applicable), land tenure, social organization.

- Food security: self-consumption, food culture, percentage of income spent on food, sales in local markets.

The methodology will be validated through a field study to be conducted in the province of Chimborazo. The data obtained from this study will be presented to decision-makers, public institutions, civil society organizations and international cooperation agencies. The proposed methodology will also be presented to universities, postgraduate study centres and other relevant organizations, to obtain inputs and comments.

➔ Output 1.1.4. *Methodology for the assessment of diversity in traditional biodiversity-based farming systems and its role in food security and rural livelihood, to underpin public policies on agrobiodiversity.*
Target: One methodology developed and validated in the province of Chimborazo.

1.5 Progress in the implementation of Farmers' Rights in Ecuador

During the first year of the project a study on the implementation of Farmers' Rights (FR) in Ecuador will be undertaken. It will include: a) a review of national legislation, b) analysis of past and existing programs and projects for traditional family agriculture, c) identification of successful initiatives in the country[23], and d) international legal measures and initiatives. In addition to secondary literature and interviews with experts, the views of farmers and indigenous organizations of the country, and particularly from the project intervention areas, will be taken into consideration. These elements will facilitate a comparative analysis in order to establish appropriate mechanisms to boost the implementation of FR in the country.

In the second year, and taking into account the inputs from the study mentioned above as well as the proposed public policy at the national level (output 1.1.3), a proposal of programme for the implementation of FR in Ecuador will be developed in coordination with MAGAP (Department of Innovation). The programme will be based on the provisions of the IT-PGRFA, specifically in articles 9, 5.1 c, 5.1 d, 6.a and 6.c, as well as of the Convention on Biological Diversity and its Nagoya Protocol. It will also be in accordance with the provisions of the Constitution, the LORSA, the Strategic Plan for Biodiversity 2011-2020 and the 2013-2017 PNBV in their provisions on food sovereignty and agrobiodiversity. With this approach, the program will establish a synergistic set of incentives for the promotion of the preservation and consolidation of biodiversity-based agricultural production by small and medium farmers. These incentives may include technical assistance, credit, marketing support, seed banks, fairs, community registers and others.

The programme will be developed in SENPLADES format and will be presented in the most relevant manner for the later review and approval process in MAGAP.

MAGAP, through its Department of Innovation, will coordinate the implementation of this subcomponent.

➔ Output 1.2.1. *Analysis of the implementation of Farmers' Rights in Ecuador, identification of options to expand this implementation, and proposal of programme for the implementation of Farmers' Rights by relevant governmental authorities.*
Target: One study and one proposal developed.

[23] For example, ERA bulletin #6 *Training modules on the new rural householder and bio-input production*, 2010.

1.6 Information campaign on Farmers' Rights

During the first year, a Committee for the information campaign on FR will be established with the participation of the project partners, national farmers and indigenous organizations and other stakeholders involved in the legal, development and educational sectors. The Committee will define the methodology, the participants and the locations for the workshops on FR, as well as the principles of a wide and participatory communication strategy addressed to farmers and indigenous population. In addition, the Committee on FR will actively participate in the development of a programme proposal for the implementation of FR in Ecuador (output 1.2.1). The Committee will meet every three months throughout the project duration.

The campaign, under the coordination of MAGAP, will include at least 7 dissemination workshops on FR, which will also help to gather inputs for the FR implementation programme. The workshops may include topics such as: needs and satisfaction; community development from the individual; family, civil society and state; duties and rights; the Constitution of the Republic; the new rural citizen; and planning within the realization of full citizenship.

In addition, two communication products will be developed: a radio strategy with jingles and information, and the preparation and distribution of 15,000 information brochures on FR addressed to farmers.

➔ Output 1.2.2. *Information campaign on Farmers' Rights in consistency with the IT-PGRFA addressed to farmers and indigenous organizations.*
Target: One campaign implemented.

1.7 Provincial ordinances on conservation and sustainable use of agrobiodiversity

The adoption in March 2013 of a provincial regulation by the GAD of Pichincha to promote organic food production, and the participatory process followed for its preparation and approval, will be the main references for this subcomponent promoting its replication. The project will develop a similar process in the GADs of Loja, Chimborazo and Imbabura with the aim of formulating proposals for provincial ordinances/regulations on the use and conservation of agrobiodiversity and promotion of organic farming, under the food sovereignty approach.

Heifer will be the responsible institution for this subcomponent. The participatory process will include: (i) definition of the participatory methodology for the preparation of proposals, in agreement with GADs, (ii) 12 workshops at canton level with the objective to gather inputs for the proposed regulations and for the provincial Development and Land-Use Plan (DLUP) (output 1.3.2), (iii) analysis of the collected information, (iv) 3 workshops at provincial level for presentation and validation of the proposed ordinances/regulations and DLUP (output 1.3.2), (v) presentation of the proposals to GADs, and (vi) monitoring the approval processes of the proposals.

➔ Output 1.3.1. *Proposals for provincial regulations on conservation and sustainable use of agrobiodiversity.*
Target: Three (3) proposals formulated in Loja, Chimborazo and Imbabura.

1.8 Integration of the value, sustainable use and conservation of agrobiodiversity in Provincial Development and Land Use Plans

The current DLUP of Loja, Chimborazo and Imbabura provinces do not include specific provisions related to the conservation of agrobiodiversity. All the work done for the formulation of proposals for provincial ordinances/regulations (output 1.3.1) will be used to gather information and recommendations oriented to integrate agrobiodiversity in the 3 DLUP.

In addition, three workshops will be held in each province with GAD officials: (i) one workshop at the beginning of the project, to create awareness of the importance of agrobiodiversity and the necessity for its conservation and sustainable use, (ii) an intermediate workshop to report on the progress at the public policy level and field work done, and (iii) a final workshop to present the results, and define agreements and future commitments.

Heifer will be responsible for this subcomponent.

➔ Output 1.3.2. *Provincial Development and Land Use Plans integrating the value, sustainable use and conservation of agrobiodiversity.*
Target: Three (3) DLUP (Loja, Chimborazo and Imbabura) integrating the conservation and use of agrobiodiversity.

Component 2: Scaling up of good practices in the *in situ* and *ex situ* conservation and sustainable use of agrobiodiversity

The objectives of this component are to scale up and develop the range of existing good practices in the *in situ* conservation and sustainable use of agrobiodiversity, and to strengthen its coordination and interaction with the *ex situ* conservation and research actions. The project will build on previous experiences of Ecuadorian institutions in relation to the conservation and sustainable use of agrobiodiversity. The purpose is to scale up, develop and replicate the successful work done by INIAP, who, through its Plant Genetic Resources Department (DENAREF), has worked over the last 30 years in promoting complementary conservation of native crops in Ecuador, and Heifer with extensive experience in fostering organic agricultural production and marketing and strengthening farmers' organizations.

One of the main elements of the approach in this component is strengthening the relationship between *ex situ* and *in situ* conservation through close collaboration between farmers and their organizations and research institutions, with recognition of traditional knowledge and local organizational processes. In this context, the participation of communities in decision-making will be crucial, both in the *ex situ* conservation actions (collection and participatory characterization, return of materials from the genebank to the communities, selection of species, varieties and components on biodiversity-based farms) and the development of criteria for the implementation of Participatory Guarantee Systems in the farms and activities to increase family income.

Linking with governments and local authorities will be important to make sure that project activities and outputs are institutionalized and sustained. The continuous training of stakeholders will be the basis of their awareness in order to build a social empowerment of the biodiversity-based conservation and production, which as a whole will contribute to the sustainability of the outcomes generated by the project.

In addition to the project outputs and activities it will be essential to seek synergies with other institutions involved in the various fields related to the conservation and management of agrobiodiversity in the intervention areas. Specifically, it will be important to maintain continuous contact with public institutions (MAGAP, MAE, GADs) to explore possibilities of developing additional and complementary activities, such as the generation of added value by supporting community micro-enterprises to process food from biodiversity-based farms.

The objective will be achieved through the following subcomponents:

2.1 Establishment and expansion of crop collections in the National Genebank

With the support of the project a total of 9 collection expeditions will be carried out to the project intervention areas to collect at least 450 samples of at least 15 species for their incorporation into the INIAP Genebank. The selection of species to be collected will be made according to the needs of farmers and to the risk of irreversible loss of the materials and the genes they contain because of lack of use. Another selection criteria will be the importance of species and their resistance traits to meet future challenges posed by climate change to food and nutrition security. Special attention will be given to plant materials that farmers recognize as resistant to drought and other biotic and abiotic stresses. Presumably, the species collected will include maize (*Zea mays*), beans (*Phaseolus vulgaris*), quinoa (*Chenopodium quinoa*), lupine (*Lupinus mutabilis*), barley (*Hordeum vulgare*), wheat (*Triticum aestivum*), beans (*Vicia faba*), potato (*Solanum tuberosum*), melloco (*Ullucus tuberosus*), oca (*Oxalis tuberosa*), mashua (*Tropaeolum tuberosum*), amaranth (*Amaranthus* spp.) and pea (*Pisum sativum*), among others.

During sample collection, the procedures and methodologies of DENAREF as well as the provisions of the FAO International Code of Conduct for Plant Germplasm Collecting and Transfer will be followed. Also, all steps of the process will be consistent with the FAO Genebank Standards.

After transferring the seeds and other materials to the Genebank (Santa Catalina Experimental Station, canton Mejía, Pichincha), they will be conditioned, analyzed for viability, and multiplied, when necessary. The Genebank facilities are adequate for the long-term conservation of seeds that tolerate desiccation (aluminum sachets, cold storage at 5 ° C for the short-term exchange collection and -15 ° C for the long-term conservation of original collections) as well as of other types of materials (collections of living plants in the field or collections of explants under aseptic *in vitro* conditions).

Part of the collected material will be used to characterize the samples. Characterization implies the study and description of germplasm in order to find shapes and sizes of the physical parts of the plant (morphological characterization), its agronomic performance in the field (evaluation) and its genetic traits (molecular characterization), as well as to describe the environmental conditions of its original habitat (eco-geographic characterization).

➔ Output 2.1.1. *Crop collections, including of under-utilized species, with relevant traits of resistance to stress established or expanded through collecting expeditions.*
Target: Collections of fifteen (15) crops established or expanded, and their characteristics identified.

2.2 Collaboration between farmers and indigenous organizations and INIAP

The project, through INIAP, will establish collaboration agreements with local organizations in the project intervention areas, with the purpose to define responsibilities for the implementation of actions for mutual benefit. These actions may include cooperation in collections of species and varieties of interest, participatory agronomic characterization, transfer of varieties from the genebank to the farms, participatory characterization of uses, participation in seed fairs, and joint cooperation with local governments. Particular focus will be placed on the recognition of the role of women in all activities of agrobiodiversity conservation and their local knowledge, by including women's groups as part of the agreements. Heifer will also participate in this process to contribute with expertise in organic agricultural production and strengthening farmers' organizations. Other partners such as local governments or community representatives may also participate in these agreements, if so agreed.

The process of strengthening the relationship between farmers' organizations in the project intervention areas and INIAP will include: (i) training and awareness of farmers on the values of agrobiodiversity present in the farm fields, (ii) the participatory definition of needs and actions to be implemented to ensure the conservation and use of this diversity, and (iii) the establishment of commitments of the parties to undertake activities for mutual benefit.

The agreements will describe the responsibilities of the parties and the mechanisms to evaluate the results obtained and ensure compliance of commitments. These agreements will be signed between INIAP and the following farmers' and indigenous organizations: UNORCAC, CEPCU, La Esperanza Water Board, Corpopuruhua and UCOCP. In addition, Heifer will also sign the agreements as co-executing institution of project activities. The agreements will be evaluated annually.

➔ Output 2.1.2. *Collaboration agreements on agrobiodiversity between five farmers'/indigenous organizations, INIAP and other partners, including actions for ex situ conservation and in situ management, and with participatory and gender-sensitive approaches.*
Target: Five (5) agreements signed with local organizations UNORCAC, CEPCU, La Esperanza Water Board, Corpopuruhua and UCOCP.

2.3 Training farmers on *in situ* management and use of agrobiodiversity

The project, under the coordination of INIAP, will provide training to farmers on various issues related to the conservation and use of agrobiodiversity and organic farming. The identification of participants will be done by local organizations, giving priority to organized groups such as organic producers' associations, networks of farmers and rural women's organizations. The Committees of the Bio-knowledge and Agricultural Development Centres (see subcomponent 2.6) will have a key role for its recognized leadership on the subject, which will ensure the active participation of farmers in the training workshops. During the

design of the training programme special attention will be given to enable the participation of women.

Five training workshops will be conducted per year in each of the five participating farmers' organizations, and the number of participants per workshop is estimated at 40. Therefore, at the end of the third year of the project 3,000 farmers will have been trained in 75 workshops.

The training topics will include crop diversity management, organic farming techniques, water and soil management, seed handling and propagation, and others. The workshops will be highly practical and the project experts along with technical specialists from INIAP, Heifer and MAGAP will contribute as trainers. Technical skills in rural facilitators will be developed with educational materials culturally appropriate to each of the areas.

- ➔ Output 2.2.1. *Rural families trained on in situ management and utilization of agrobiodiversity, based on the needs identified in the farming systems.*
  Target: 3,000 families (30% of which are led by women) managing approximately 1,500 hectares are trained in the project intervention areas of four provinces (Imbabura, Pichincha, Chimborazo and Loja).

2.4 Local inventories and community registers of agrobiodiversity

In the last years, INIAP has developed and implemented a participative methodology in the canton of Cotacachi to evaluate agrobiodiversity in micro-centres of diversity and to develop local inventories and community registers of agrobiodiversity.

Local inventories are a complete and detailed compilation of all existing agrobiodiversity in a specific area. They are very helpful to identify unique, rare and common varieties of cultivated species and to have an idea of the origin, the degree of exchange and the specific use of varieties and seeds. They can also be used as a base line to monitor dynamics in the state of agrobiodiversity in the future, and to identify needed conservation measures. They are also useful to identify areas of high diversity (micro-centres of diversity or "hotspots") that are adjacent geographic areas whose ecological conditions, production systems and cultural patterns allow the survival and use of high levels of agrobiodiversity.

Community registers of agrobiodiversity are a mechanism to document in a participatory manner agrobiodiversity and its related traditional knowledge, to monitor genetic erosion to support the recognition and empowerment of local genetic resources by farmers, authorities and institutions. Likewise the local inventories, registers provide useful information for planning agrobiodiversity conservation and use actions.

For the development of local inventories and community registers, key informants will be identified in the different groups and organizations of each area. The information provided by local organizations and obtained in seed fairs, among other sources, will contribute to identify the informants. To get information on agrobiodiversity, specific workshops for the implementation of participatory methodologies with focus groups will be organized, and selected sites will be visited to implement semi-structured interviews. The inventories will be developed using a language that farmers and local decision makers can easily understand. In the case of community registers, the involvement of the communities and their leaders will be crucial and therefore the process will include awareness actions and the establishment of a

committee in each community responsible for the management of registers and for defining actions for the conservation of community resources.

INIAP will be the coordinating institution of this subcomponent.

- ➔ Output 2.2.2. *Local inventories of agrobiodiversity and its related traditional knowledge, and community registers of crop diversity in family farms developed through participatory research.*
  Target: Three inventories in Chimborazo, Loja and Otavalo-La Esperanza developed, and five hundred (500) community registers established in four provinces (Imbabura, Pichincha, Chimborazo and Loja).

2.5 Formalization and support to local seed fairs

Local seed fairs are a very relevant event for the communities. Besides the exchange of seeds cultural events related to gastronomy and handicrafts are organized. The fairs are an essential element for the exchange of agrobiodiversity among farmers, thus contributing to their use and conservation in farmers' fields. They are usually organized in an open and public space of the main town of the canton, a few weeks before the start of the planting season, according to the agricultural calendar of each area.

Based on the experience of the Cotacachi seed fair, which for years has been formally organized with the support of various institutions, the project, under the coordination of Heifer, will address the development and institutionalization of three informally existing fairs in the centres of La Esperanza, Guamote and Paltas. Meetings for the budgetary and operational planning of fairs with local stakeholders, including farmers' organizations, local governments, MAGAP, NGOs, universities, INIAP and others, will be held. In these meetings the organizational and financial responsibilities of each participating institution will be assigned, including the dissemination of the event and the operational aspects of the fair. At the end of each fair an evaluation meeting will be held to identify the results and the difficulties found, for a continuous improvement of the event.

An important element in the fairs is to record the seeds supplied by each farmer, as well as the seeds he/she has at the end of the fair. This information will be highly useful to know the total amount of seed exchanged and the most popular varieties. It also helps to identify farmers and communities managing the largest amount of seeds, which will be publicly awarded at the end of the fair with seeds, plants, and/or small tools.

INIAP will be responsible for this subcomponent.

- ➔ Output 2.2.3. *Local seed fairs formalized.*
  Target: Three (3) seed fairs formalized in La Esperanza, Guamote and Paltas.

2.6 Establishment and strengthening of Bio-knowledge and Agriculture Development Centres and community seed banks

The Bio-knowledge and Agricultural Development Centres (BADC) are technology transfer units managed jointly by INIAP and provincial governments, with a high level of participation of beneficiary farmers. The BADC strategy is to organize farmers with interest in the conservation of agrobiodiversity, support them in the controlled multiplication of

germplasm of interest obtained in the area or restored from the National Genebank for subsequent transfer to farmers, and disseminate and transfer knowledge and methodologies for conservation and sustainable use of agrobiodiversity. With this approach, the BADC are important platforms for coordination and feedback between *in situ* agrobiodiversity management and use systems and its conservation and development through *ex situ* research. The participation of provincial governments helps to ensure the sustainability of the BADC through their permanent presence in the province and provision of co-financing.

The project will support, under the coordination of INIAP, the establishment of six BADC in the intervention areas. The steps for the implementation and management of BADC are: (i) establishment of a BADC Management Committee with participation of farmers in the project area and technical staff of the provincial government and INIAP, to make decisions about the activities of the Centre, (ii) identification of communal land and building basic infrastructure for the operation of the BADC, (iii) growing traditional varieties identified as priorities by the farmers in the area, from the INIAP Genebank or collected in the area of influence, (iv) on-field management of pollination to preserve the genetic identity of traditional varieties, (v) crop management, (vi) harvest and planning new sowing seasons; (vii) post- harvest management, (vii) conditioning and storage in drying rooms and nurseries, and transfer of duplicates to the National Genebank, and (viii) monitoring germination and viability.

One of the main functions of the BADC will be the production of quality seed of varieties chosen by farmers in the area. For the implementation of this activity the following steps will be followed: (i) selection of beneficiary farmers-partners and identification of their need for seed, (ii) seed multiplication in sufficient quantities for distribution, (iii) participatory characterization of germplasm well adapted to ecological conditions of the area, including factors like yield and resistance to biotic factors, among others, and (iv) identification of elite material.

For the transfer of germplasm to the farms, community workshops will be organized where farmers identify seeds and varieties of their interest for features like yield, resistance to different pressures, taste or cultural or market value, and for other reasons like for example when varieties are no longer available in the communities or have difficult access because of their uncommonness. When seed of the identified varieties is available, it will be cleaned if necessary and multiplied for subsequent transfer to interested farmers.

Agrobiodiversity present in each household recipient of germplasm will be recorded both before the transfer and afterwards, in order to make an estimation of the increase in agrobiodiversity of species and varieties, both of plants and animals, in traditional farms. The target of the project is a 40% increase in agrobiodiversity. As a complementary action to agrobiodiversity record, surveys of farmer families' living conditions will be undertaken before and after the intervention, following a local perception approach, to assess the impact of the intervention on the quality of life.

Another key activity in this sub-component will be the establishment or strengthening of community banks or areas of agrobiodiversity conservation. Community seed banks are managed by communities with the objective to preserve and produce quality seed. The project will support the establishment of a community seed bank in Colta, including the development of the internal operation rules of the bank, training of farmers in the bank's activities and the provision of basic equipment. The existing community seed bank in La Esperanza, recently established, will be strengthened with capacity building for the partners. Three training

workshops will be conducted both in Colta and La Esperanza, with an estimated participation of 25 farmers per workshop, of which at least 45% will be women. The BADC technical staff will provide training to the members of community seed bank committees on conservation and seed production techniques and may provid other services such as seed multiplication, if necessary.

➔ Output 2.2.4. *Bio-knowledge and Agriculture Development Centers and community seed banks established or strengthened to multiply and restore local representative species in the farms.*
Target: (i) Six (6) BADC established and operational in Guamote, Paltas, Saraguro, Cotacachi, Ibarra and Riobamba, (ii) one (1) community bank established in Colta, (iii) one (1) community bank strengthened in La Esperanza, and (iv) twenty local representative species multiplied and restored in farmers' fields.

2.7 Development of participatory guarantee systems for good practices of *in situ* agrobiodiversity management

Through the implementation of a participatory guarantee system (PGS) it will be certified that farmers apply specifically defined practices of conservation and use of agrobiodiversity within their farming systems. The development and implementation of the PGS will be coordinated by Heifer, based on its experience in supporting farmers' organizations in organic farming and marketing by smallholders. The PGS, as a principle of social responsibility of farmers' organizations, will build on the active participation of stakeholders, and the relationship of trust between producers and consumers on the quality and origin of the products. The involvement of external stakeholders, such as MAGAP representatives and local governments, in the provision of technical support to the structure of the system will be essential. The PGS aims at strengthening consumers' reliance on the origin of products, recognizing the quality of diversity-based production systems and its differentiation from other systems. It is offering a guarantee scheme to farmers that sell their products in the fairs, and strengthening the link between production and consumption by adding value to the products. It is important to highlight the local character of the whole process, since the producer-consumer trust lies on the most direct link possible. The short distance of the movement of goods and income enables a better and fairer price for both parties. Furthermore, it drastically reduces the consumption of fossil fuel required to transport over long distances, cooling systems, and synthetic and plastics packaging, among others.

The system starts with the definition of the principles or reference standards, discussed with the organizations that have shown interest in participating in the PGS as a mechanism to certify the implementation of good management practices of organic farming and agrobiodiversity management. These standards will include elements of crop and variety diversity and organic farming production, in conjunction with gender-sensitive and community participation approaches. For the definition of the standards, workshops will be organized and PGS committees will be established.

➔ Output 2.3.1. *Standards of good practices of in situ management of agrobiodiversity, and PGS issuing distinctive labels for the implementation of good practices, managed by local farmers' networks and indigenous organizations.*
Target: Three (3) Participatory Guarantee Systems developed with defined standards, in the provinces of Imbabura, Pichincha, Chimborazo and Loja.

2.8 Training farmers on Participatory Guarantee Systems

In coordination with community leaders and farmers' organizations, the project will promote in the beneficiary communities the PGS, its implementation methodology and the training programmes. In this way, it will be possible to identify farmers interested in joining the implementation of biodiversity-based and organic practices in their farms under the PGS.

The training on the implementation of PGS will specifically include the definition of responsibilities and benefits of farmers participating in the PGS, the established principles and reference standards (output 2.3.1) and the management of documentation and records necessary for the administration of the system, as well as the process to obtain the accreditation.

The training programme will include the exchange of experiences from farmer to farmer in farms that have already implemented organic farming and agrobiodiversity conservation practices. The project will support farmers in the choice of species, and will provide technical support to all activities in the process, and co-finance the provision of some inputs such as seeds, plantlets, fertilizers and tools.

Each organization will establish its own methodology for inputs allocation. Priority will be given to the "chain pass" or in-kind credit methodology, which involves the commitment of each householder to give in return a portion of the inputs received or its cost at a given time, either in cash or by inputs with the same characteristics as those previously taken, which sequentially will be used to implement the system in another farm of the same community. This methodology will help to generate a replication process with sustainability and solidarity approaches, and to share resources and knowledge among farmers. The farmers' organization plays a key role in this methodology by facilitating the fulfilment of the commitments acquired by each participating householder.

The accreditation of biodiversity-based farms will follow the procedure approved by the committee, which will include: (i) the application of the producer to join the system, (ii) the visit to the producer to gather information on the production process and its comparison with the established standards, (iii) the analysis of the information gathered by the PGS committee, and (iv) if applicable, the issuance of the label. In each of these phases, previously defined backup documents will be prepared and saved, and each step will based on the agreed principles and standards.

At least 3,800 households will be trained by the project, distributed as follows: 1,070 in the province of Imbabura, 380 in Pichincha, 1,400 in Chimborazo and 950 in Loja. This subcomponent will be under the shared responsibility of MAGAP and Heifer.

- ➔ Output 2.3.2. *Smallholders trained and producing under Participatory Guarantee Systems of organic and biodiversity-based farming practices, some of which sell their products.*
  Target: 3,800 households (of which at least 30% are led by women) trained, of which 800 sell their products under local PGS.

2.9 Proposal for a national label for products from biodiversity-based farming systems

At the end of the project, an assessment of the implementation of PGS in the project areas will be developed through a workshop with the participation of PGS administrators and local beneficiary organizations, as well as external stakeholders such as representatives of MAGAP, GADs and municipalities. The workshop will discuss the results of the process of ownership of good practices for the conservation and sustainable use of agrobiodiversity and its impact on the quality of life of participating farmers, as well as the influence on supply and demand for labelled products. This assessment will help to validate or adjust the criteria established at the beginning of the project, which will be the basis for replicating the system in other areas and provide crucial elements for the development and implementation of a distinctive label for products from farms following good management practices of agrobiodiversity management, at national level.

The project will also organize a workshop where a proposal of national label for products from farms following good management practices of agrobiodiversity management (conservation and sustainable use) will be presented. The aim of this label will be to indicate and identify the source of products in order to build trust and credibility between producers and consumers and add value to products as an incentive for farmers. At the workshop, the proposal will be presented for validation by the organizations, and the mechanisms for the management of the label and its dissemination will be defined.

Heifer and MAGAP will be in charge of the coordination of this subcomponent.

- ➔ Output 2.3.3. *Proposal of quality label at national level for products from biodiversity-based farming systems based on the experiences of local guarantee systems.*
  Target: One (1) proposal of quality label based on the local guarantee systems developed and validated.

2.10 Strengthening local fairs of organic products

In order to increase the volume of sales of agrobiodiversity products, the project under the coordination of Heifer, will support the strengthening of the agroecological weekly fairs that take place at the cantonal main towns (Catacocha, Saraguro, Guamote, Colta, Cotacachi, Otavalo and La Esperanza). Increased economic benefits for farmers will be achieved through improved access to the trade fairs for a greater number of producers and increasing sales revenues for each producer.

This support will include: (i) a participatory market survey to identify the potential demand for agrobiodiversity products; (ii) formulation of a business plan (productivity, organization and sales planning) of the fairs, to include a set of strategies, actions and tools to increase sales in the fairs; (iii) strategic alliances with local authorities and provincial GAD to improve and expand the physical spaces of the fairs and its accesses; (iv) improvement of the equipment (tents, headings, tables) and the commercial corporate image (logo, uniforms, brochures) of the trade fairs; and (v) training of producers-sellers through workshops on post-harvest handling and marketing of agricultural products in trade fairs (9 workshops with at least 30 participants by workshop);

The fairs will constitute the main access to the consumer for certified products from bio-diversity-based plots (subcomponent 2.8, product 2.3.2). It will be essential to promote

among consumers messages of the value and advantages of agrobiodiversity products as well as the identification of the products through the warranty seal.

The subcomponent will have a strong focus on gender that will be defined in the business plan. It will include a high participation of women in workshop trainings, at the fairs both as sellers and in food tasting demonstration.

Table 2.2 shows the current estimate of sales in the agroecological fairs and the potential increase that will be generated by the project, obtained by the increase in the number of producers-vendors (from 407 to 460) and the increase in sales by each producer (USD 19.96 to 22.70 per vendor per week). As a result, reached by the activities of this subcomponent jointly with the implementation of PGS (result 2.3) and the promotion of the value of agrobiodiversity products (result 3.3), the project is expected to generate an approximate increase of 28.5 % in the sales of products from agrobiodiversity systems and organic farming.

- ➔ Output: 2.4.1. *Local weekly local market fairs strengthened.*
  Target: Seven (7) fairs strengthened in Catacocha, Saraguro, Colta, Hope, Avocados, Guamote, Otavalo and Cotacachi

Table 2.2. Increased in sales the agro-ecological fairs supported by the project.

	BASELINE (2013)			INCREASED WITH THE PROJECT			END OF THE PROJECT		
AGRO-ECOLOGICAL WEEKLY FAIR	**Number of producers at weekly fairs**	**Average sale by producers**	**Annual sales USD**	**Increase in number of producers**	**Increase in producer average sales**	**Increase in anual sales**	**Number of producers at weekly fairs**	**Average sale by producers**	**Annual sale USDA**
UCOCP Catacocha fair	65	20,00	67.600,00	15,38%	15,00%	32,69%	75	23,00	89.700,00
Saraguro agricultural products fair	45	19,00	44.460,00	11,11%	15,79%	28,65%	50	22,00	57.200,00
CEDEIN Colta fair	55	17,00	48.620,00	18,18%	11,76%	32,09%	65	19,00	64.220,00
CORPOPURUHA Guamote fair	45	17,00	39.780,00	11,11%	11,76%	24,18%	50	19,00	49.400,00
Imbabio Otavalo fair	48	22,00	54.912,00	14,58%	13,64%	30,21%	55	25,00	71.500,00
UNORCAC Cotacachi fair	84	22,00	96.096,00	13,10%	13,64%	28,52%	95	25,00	123.500,00
La Esperanza Water Board fair	65	21,00	70.980,00	7,69%	14,29%	23,08%	70	24,00	87.360,00
Total	**407**	**19,96**	**422.448,00**	**13,02%**	**13,70%**	**28,51%**	**460**	**22,70**	**542.880,00**

2.11 Strengthening local micro-community agribusiness

The project will support the development of technological and human capabilities in four existing community micro-agribusinesses located in the areas of intervention of the project which process products from diversity based production systems. These micro-enterprises, which are already formally organized and are linked to the farmers and indigenous organizations involved in the project, are self-managed (in its majority by women) and sell their products mainly in the weekly markets. Community micro-enterprises knowledge and skills/capacities will be strengthened for developing processed products with higher added value, from underutilized crops and varieties. For example, these processed products may include: peanuts (peanut snacks with panela), corn (flour), *chochos* (ice cream, pies, and seeds), fruits (dried) or medicinal plants (lemon balm, *escancel*, and others).

The support of the project, coordinated by Heifer and solely funded by co-funding from Heifer, the GAD of Chimborazo, and participants farmers, will consist of: (i) a market study to determine the current and potential demand of processed products obtained from biodiversity-based systems; (ii) business plans to improve the management and the positioning of the businesses and their products in the target market; (iii) micro-businesses infrastructure improvement (facilities and complementary equipment); (iv) training in best practices for manufacturing, environmentally sound waste management, food processing, marketing of processed products and management of rural microenterprises; and (v) technical assistance in obtaining health permits and other requirements for marketing

➔ Output 2.4.2 *Community microenterprises generate new products increasing the use of agrobiodiversity from the farms of participating families.*
Target: Four community microenterprises generating 10 new products

2.12 Development of agro-tourism routes

The project will support the development of two agro-tourism routes where agrobiodiversity will be at the center: one in the canton Colta (Chimborazo) based on the work done by CEDEIN, and another in Palta (Loja) as a new path in collaboration with UCOCP. The tours will include visits to biodiversity-based farming systems identified in the project, in which the farmers will show the diversity that they manage, traditional and sustainable practices in agricultural and cultural traditions related to agrobiodiversity. In addition it will include visits to the CBDA in the project areas, community processing micro-businesses and organic fairs, as well as natural attractions and cultural events linked to the route.

Heifer will coordinate a participatory process of drawing up the routes and local organizations (UCOCP and CEDEIN) will play a vital role in the decision-making. Runa Tupari, of UNORCAC, Imbabura, has more than 10 years of agrotourism experience. Therefore, they will provide training to develop the capacities of local organization to engage in agritourism in their areas. Municipal governments, provincial GAD and other actors will also participate actively in this subcomponent. The process will include the following activities: (i) identification of participants, potential resources and drafting of routes; (ii) evaluation of proposals and selection of routes; (iii) development of a business plan for each route; and (iv) implementation of an agritourism route in Paltas and improvement in Colta route (infrastructure support, promotion and capacity building).

➔ Output 2.4.3. *Agritourism routes expose and promote local agrobiodiversity.*
Target: Two agritourism routes developed in Paltas (Loja) and Colta Lake (Chimborazo).

Component 3: Education and awareness of decision-makers, teachers and consumers about the environmental, nutritional, cultural and economic value of agrobiodiversity

The objective of this component is to design and implement an education and awareness raising programme addressing decision-makers, teachers, students and consumers about the environmental, nutritional, cultural and economic value of the use and conservation of agrobiodiversity. The component will have a strong participatory approach and will primarily involve stakeholders of the formal education sector as a base element to spread the messages to other sectors of the society. Another crucial aspect of the approach is that the actions will be taken both in rural and urban areas, in order to raise consumer awareness and promote a change of attitude towards the importance of agrobiodiversity and the problems and threats it faces.

The objective will be achieved through the following subcomponents:

3.1 Information and awareness-raising among decision makers on the importance of agrobiodiversity

The project will develop an awareness program aimed at decision makers from different governmental institutions. The messages to be disseminated will include the importance of agrobiodiversity, the problems and threats it faces, the ecological, nutritional, cultural and economic consequences of the loss of agrobiodiversity, and the possible solutions to these problems, especially in the political and legal domain.

The activities of the program, coordinated by INIAP, will include:

a) One awareness workshop for representatives of national institutions (National Assembly, MAE, MAGAP, MIES) facilitated by social actors and beneficiaries of the project. The workshop will be held in parallel and taking advantage of the celebration of an event where the issue of agrobiodiversity is included (for example, an event of the International Year of Family Farming in 2014).
b) Four training and awareness workshops for decision makers at provincial and canton levels.
c) Two dissemination and awareness events for members of the National Assembly. The events will include: (i) visits to the Assembly by representatives of farmers' organizations, teachers, students and other relevant stakeholders to explain the importance of agrobiodiversity, the threats it faces and the importance of its conservation and sustainable use, (ii) political dialogue meetings on the development of public policy proposals (component 1), and (iii) events with local and national media for dissemination of the activities conducted on the importance of agro-biodiversity.

➔ Output 3.1.1. *Information and awareness-raising program for decision makers including one national workshop, training workshops and dissemination events on the importance of agrobiodiversity.*

Target: One information and awareness-raising program implemented, including one national workshop, four local training workshops, and two dissemination events, with at least 30% participation of women.

3.2 Methodological Guide for education in the values of agrobiodiversity

The project, under the coordination of INIAP, will support the development of a Methodological Guide to be used by teachers in schools as a conceptual and methodological compendium of the education and awareness program on agrobiodiversity. The Guide will include concepts that teachers can use and adapt to the educational level and program of each school and high school, through lessons, exercises and other activities. The contents of the Guide will combine formal technical-scientific knowledge with traditional knowledge associated to agrobiodiversity, which will be obtained from the communities.

The *Educational Guide on Agrobiodiversity* developed by UNORCAC in Cotacachi will be used as the main reference for the development of the Guide. Also, the inputs provided by teachers in the participatory training workshops (subcomponent 3.3, output 3.2.2) will be incorporated.

The Guide will include, among other contents: (i) technical knowledge supported with drawings, pictures, graphics, and others ("Access to knowledge"), (ii) exercises and activities for students to relate theoretical knowledge with day-to-day practices both in rural and urban areas ("Practical application of knowledge"), and (iii) activities of dissemination of results to the society ("Dissemination of acquired knowledge and awareness").

➔ Output 3.2.1. *Methodological Guide for integrating agrobiodiversity and its values in the education systems at school and high school levels.*
Target: One (1) Guide developed.

3.3 Training of teachers in the values of agrobiodiversity

The project will support a training program aimed primarily at teachers of primary and secondary education, but also at other stakeholders such as university teachers, GAD officials, field technicians, teachers of agriculture and agro-ecology schools and consumers' associations. Three target groups (Imbabura-Pichincha, Chimborazo and Loja) will be established, with an average participation of 30 trainees per group.

The training program will include, for each of the 3 target groups, 6 workshops throughout the project duration as well as a training and exchange tour where participants can have access to information and experiences in a practical way. The program, which will be coordinated by INIAP, will be implemented in parallel with the development of the Methodological Guide for education in agrobiodiversity (subcomponent 3.2, output 3.2.1), so that teachers can provide inputs to the content and structure of the Guide, but also acquire knowledge on the application of the Guide in schools and communities.

➔ Output 3.2.2. *School teachers trained on the many values of local agrobiodiversity and the application of the Methodological Guide.*
Target: Ninety teachers of thirty schools in the four provinces trained.

3.4 Incorporation of agrobiodiversity in schools and other spaces for children and teenagers

Along with the development of the Methodological Guide and the training programme for teachers, the capacity of schools and technical education centres in education and awareness on the importance and use of agrobiodiversity, will be strengthened and complemented with the application of the materials developed and the acquired knowledge. It will be essential that this application is mainly practical, engaging students in activities for the implementation and use of the contents. These training materials will be addressed to two different social and cultural areas: rural areas, where agrobiodiversity is grown and the cultural aspects of its use remain, and urban areas, where it is necessary to convey the message of the environmental, social, cultural and nutritional benefits of local agrobiodiversity. In both cases, the main focus will be on food security and sovereignty, the specific aspects of nutrition and the environmental benefits.

During the second year of the project, the Methodological Guide will be validated in the 30 target schools of the four provinces.

INIAP will take responsibility for this subcomponent.

➔ Output 3.2.3. *Schools integrating agrobiodiversity issues using the Methodological Guide.*
Target: Thirty (30) schools (of which 70% are in rural areas and 30% in main towns) in the four provinces.

3.5 Dissemination materials promoting the value of agrobiodiversity

The project, with the coordination by INIAP, will support the development of dissemination materials for producers, consumers and decision makers about the value and importance of agrobiodiversity. Special emphasis will be on the nutritional, environmental and cultural values of agrobiodiversity, combining the nutritional potential of food products with ancient cultural practices, for the benefit of the environment and the local economy. The materials will include a written publication and a video, which will be given maximum publicity. The project will establish agreements with provincial GAD and their communication departments for collaboration in the development of these materials which will be financed by the co-financing provided by these institutions.

➔ Output 3.3.1. *Dissemination materials (publication and video) on the value of agrobiodiversity.*
Target: One (1) publication and one (1) video developed.

3.6 Documentation of all project experiences

In the last year of the project, all results, experiences, best practices and lessons learned from each project component and subcomponent will be compiled into a document. All experts and consultants working under the project will collect information on all activities and their evaluation in their field of intervention, and the project coordinator will gather all the information for its integration into one document. The compilation of good practices will be particularly useful for future actions in the field of conservation and sustainable use of agrobiodiversity, both in Ecuador and in other countries. The responsibility for the development of this document will be taken by INIAP.

➔ Output 3.3.2. *Document integrating all project experiences.*
Target: One (1) document developed and published.

3.7 Campaign to promote the conservation and use of agrobiodiversity

The project will support the dissemination of results to communities through the distribution of publications and materials on the importance of agrobiodiversity. The campaign will include the following activities: (i) events to link schools with communities, including days of "open houses" where students exhibit to family parents, authorities and consumers the activities and materials developed, and (ii) education fairs on agrobiodiversity in public places, where students of rural and urban schools display the environmental, cultural and food importance of agrobiodiversity in the context of food security and sovereignty and in relation to environmental benefits. A total of 10 "open house" events and 4 education fairs on agrobiodiversity will be carried out. The implementation of this subcomponent will be coordinated by INIAP.

➔ Output 3.3.3. *Promotional campaign on the importance of food security and sovereignty and the benefits of the conservation and use of agrobiodiversity.*
Target: One (1) promotional campaign implemented.

2.5 GLOBAL ENVIRONMENTAL BENEFITS/

The global environmental benefits generated by the project are related to the enhanced conservation and access to agrobiodiversity and genetic resources of basic food crops, important for the future development and resilience of mountain and dry-land agro-ecosystems similar to the ecosystems of the Andes region. The global importance of the conservation of agrobiodiversity has been emphasised in the last decade due to the challenges of climate change for agriculture. The increasing scarcity of water resources for agriculture in the Andean region is one aspect that this region has in common with agricultural regions whose water supply depends on glaciers. Therefore efforts should be made to maintain and promote diversified agro-ecosystems and to conserve varieties of important crops for food security, especially those most resistant to drought, for their development and dissemination.

The characterization of biotic and abiotic traits of traditional varieties and the conservation actions undertaken jointly by the National Genebank, the Bio-Knowledge and Agricultural Development Centres and the community seed banks have already made possible the development of drought-resistant varieties of beans and wheat. These varieties can provide advantages to farming systems in other Andean countries and other regions through the mechanisms of access and benefit sharing. A similar work is required for potatoes, quinoa, maize and other fruits, grains, roots and tuber crops. The increased pressure of climate also makes cultivated plants more vulnerable to pests and diseases, and genetic resistance, which can often be found in native species and varieties, has become a very important factor. Thanks to the biotic and abiotic characterization of native potato varieties, improved varieties resistant to diseases are currently being developed.

Another global environmental benefit of the conservation of Andean agrobiodiversity is related to the global problem of land degradation and soil erosion in dry lands. To ensure the future agricultural production in these areas, the best option in many cases is the shift in cropping systems from monoculture systems based on agro-chemical inputs to agro-

ecological systems based on diversity and other sustainable land management practices, so that the risks from different stress factors are minimized, and the vegetation cover and soil organic carbon are increased. In these systems, the varieties with various tolerances to draught and plagues are crucial, and in most cases they can only be obtained through incorporation and combination of the genetic traits from local native varieties.

The above mentioned crops, found in a great diversity of varieties in the Andean agro-ecosystems but also cultivated in a wide range of agro-ecosystems in other parts of the world, are highly adaptable to the stress factors indicated before. The indigenous knowledge and practices related to the cultivation and *in situ* conservation of these crops combined with the research undertaken by INIAP for the study of the genetic traits of biotic and abiotic tolerances contained in local varieties, allow the stress tolerant crops to adapt easily to different agro-ecological zones in the Andean and other regions. The exchange with other regions, facilitated by the National Genebank and supported by the community seed banks, is crucial to take full advantage of diversity and access to plant genetic material useful for improved stress tolerance.

In summary, the *in situ* conservation of agrobiodiversity through the support to biodiversity-based agro-ecosystems is very important for food and nutrition security and agricultural development at the local level, but also of great significance for the development of agriculture and food and nutrition security in the world. The main global benefit of conserving agrobiodiversity is the access provided to a variety of characteristics of genetic resources which are necessary to overcome future challenges related to climate and other pressures, for agricultural production and food and nutrition security. A major benefit of the *in situ* conservation is the use of traditional knowledge and practices by farmers which allows the dynamic conservation of agrobiodiversity, thus contributing to the continuous adaptation of farming systems to climate and other pressures.

Specifically, the global environmental benefits of the project include the following:

1. The conservation of agrobiodiversity and the study of its genetic traits related to stress tolerance, in support of a more sustainable use by future generations of farmers, especially in mountain and dry-land agro-ecosystems.
2. The contribution to the restoration and *in situ* conservation of local varieties to food and nutritional security of communities and ecosystem preservation, and the contribution to *ex situ* conservation in order to ensure the availability of important plant genetic material for the future resilience of mountain and dry-land agro-ecosystems.
3. The identification of local genetic material with important agronomic traits selected by farmers and based on standardized studies of adaptation to local ecological conditions, which prevents the adoption of foreign varieties.
4. The promotion of the conservation, protection and restoration of ecosystem functions essential for agricultural systems conserving agrobiodiversity *in situ*. These functions include water provision and uptake, soil erosion control, preservation of wild species, pollination and others.

2.6 COST EFFECTIVENESS (alternative strategies and methodologies considered)

The most important aspect of the cost effectiveness strategy of the project is the focus on the cooperation between the public sector at different levels (agricultural research, MAGAP,

provincial and local governments) and the civil society (agricultural development NGOs, farmers and indigenous organizations) in promoting organic and diversity-based agriculture and other complementary activities. Another major focus of the strategy will be the strengthened linkages, interaction and feedback between *in situ* agrobiodiversity management and use systems and the *ex situ* plant genetic resources conservation, research and development system, seeking synergies and mutual benefits. With the participation and collaboration of a range of stakeholders providing their knowledge of different systems, it is possible to save costs by avoiding duplication and filling the gaps in knowledge and materials in one system with inputs from other systems.

Some alternative strategies considered but discarded because of their lower cost effectiveness were:

1. Addressing the problems only with field actions, through technical assistance and financial support to the *in situ* management of agrobiodiversity in the farms, would have been unsustainable without the support of important complementary actions of alternative income generation, awareness of consumers and decision-makers and development of policies and legislation for the promotion of *in situ* conservation.
2. Addressing the problems only with measures to strengthen INIAP and its work on *ex situ* conservation, research and development of plant genetic resources, even if supported by the development and implementation of policies and legislation, would have also been unsustainable, since it would not have been accompanied by actions to strengthen *in situ* management and conservation systems which provide local knowledge and practices on the use and characteristics of the local crop species. Also, the research to obtain and release new crop varieties would lose a direct linkage with the needs of diversity-based crop systems, especially in the highland Andean systems under important climatic pressures like the increasing water scarcity.

In the three years of the project, the cost of the direct investment of GEF resources is USD 456 per hectare cultivated under organic and diversity-based production practices (the amount of GEF investment in outcomes 2.2 and 2.3 divided by 1,500 hectares directly supported). This value includes the provision of inputs such as seeds, fertilizer, small animals and seedlings, as well as support for irrigation infrastructures, Bio-knowledge and Agricultural Development Centres and community banks, and the preparation of inventories, among others. It also includes training on the Participatory Guarantee System and its implementation. Comparing these costs with those of a conventional green certification for organic production (USD 1,800 per year per 1-10 hectares including training[24]) it is evident that in this aspect the project is cost-efficient.

The investment cost including the indirect project coverage by incorporating the sustainable use and conservation of agrobiodiversity in public policies and Provincial Development and Land Use Plans and awareness actions is USD 139 per hectare (1.25 million USD / 9 000 hectares). These costs are reasonable compared to similar interventions.

2.7 INNOVATIVENESS

The project is based on the promotion and scaling up of ingenious production systems that contribute to environmental conservation and are based on traditional practices of rural

[24] Cost per year of organic banana production certification under EU and USA systems, for farms between 1 and 10 hectares. Information provided by BCS Öko Garantie Cía. Ltda. Ecuador.

families. The innovative elements of the project are related to its approach and structure. There are two innovative elements of particular relevance: the integration of *ex situ* conservation and research activities with *in situ* conservation and management activities, and the implementation of Participatory Guarantee Systems to ensure consumers that the foods they buy have been produced under good practices of agrobiodiversity management and organic production.

Initiatives for the development of agricultural systems integrating *ex situ* conservation strategies and the promotion of *in situ* conservation and management of agrobiodiversity are rare in Ecuador and also in other countries. The conservation of plant germplasm, including local and traditional varieties, in facilities that ensure their long-term physical conservation, genetic integrity and viability, is an activity traditionally associated with scientific research and especially with plant breeding and variety development. On the other hand, initiatives to promote the conservation and use of local species and varieties in farms where they are grown are less frequent and usually included under the framework of rural development programmes. While both approaches are considered complementary, it is not usual to find them integrated in the same programme or project. The only point of connection is usually the germplasm collection expeditions, when researchers and germplasm curators of collections come to the farms where local and traditional species and varieties are grown in order to expand the coverage of their collections. After these expeditions, the restoration of materials in case of irreversible loss in the farm fields seldom occurs, and the knowledge developed through the study and characterization of plant materials in genebanks is rarely made available to the farmers that provided the materials.

With the aim to promote the integration of both approaches, the project will establish formal partnerships between INIAP and farmers and indigenous organizations as well as BADCs, two innovative instruments for mutual benefit. These actions may include the cooperation in the design and implementation of expeditions to collect species and varieties of interest, participatory agronomic characterization, transfer of varieties from the genebank to farmers' fields, participatory characterization of uses, participation in seed fairs and joint management of linkages with local governments. Thus, community organizations will benefit from the training of farmers in the use of local species and varieties, the access to seeds and planting materials of species and varieties adapted to similar agro-ecological zones and with useful traits, and the restoration of materials lost in the farms. INIAP's conservation actions will be strengthened by identifying the best materials for their collections, increased access to traditional knowledge associated with materials and participatory collaboration of communities and their organizations in the efforts for regeneration, multiplication and characterization of materials.

Another innovative element is the "chain pass" or "passing on the gift" approach which, by making use of traditional mechanisms for exchange of donations (goods and services) through the commitment of reciprocity, increases the benefits of the initial investment.

The existing initiatives in Ecuador including the implementation of Participatory Guarantee Systems are based on participatory mechanisms for the recognition of organic agriculture production. These experiences contribute to the conservation of agrobiodiversity by recognizing the importance of traditional species and varieties. However, the consideration of the diversity of crop species and varieties as a major criterion for accreditation is a novel approach. This criterion may include, among others, the number of crop varieties used and conserved on the farm, the number of under-utilized or "minor" species grown, or the special

consideration of endangered varieties and species. Thus, the trust created between consumer and producer about the origin of the products sold in the market focuses, in addition to organic practices, on the conservation of agrobiodiversity and its associated knowledge.

Unlike the third-party certification by specialized agencies, Participatory Guarantee Systems not only meet organic production standards but also follow simple verification procedures, require little administration, generate minimal costs, and usually include an educational process involving the participants in the production chain (producers and consumers). This accreditation system does not mean a direct cost to the producer and is not oriented to export organic products. It also ensures the adaptation of each system to the economic, political, ecological and cultural contexts of the farmers and consumers who develop them. Thus, they are not unique models that can be generally adopted in any context, but they must be adjusted to the circumstances of each location and time and built by specific social groups, and therefore adapted to them. Furthermore, the integration of PGS in local regulations as a mechanism to target financial and technical support is also an innovative proposal because it provides the GADs with a specific and clear mechanism to develop the policy.

SECTION 3 – FEASIBILITY (FUNDAMENTAL DIMENSIONS FOR HIGH QUALITY DELIVERY)

3.1 ENVIRONMENTAL IMPACT ASSESSMENT

The activities of project component 1 will include proposals for policies and action plans, the establishment of inter-organizational coordination mechanisms, studies, and awareness and training workshops, all of them with no negative environmental impact. Similarly, the activities of component 3 will include awareness and training workshops, development of education and dissemination materials, and promotion and outreach events, which will have no negative environmental impact. With respect to component 2, most of the activities will have no negative environmental impact, being activities related to germplasm collection, establishment of agreements between participating institutions, farmer training workshops, studies, establishment of bio-knowledge and agriculture development centers and community seed banks, and support to marketing channels and agro-tourism routes. In fact, all these activities aim at contributing to the sustainable management and resilience of agro-ecosystems. As described above, the implementation of sustainable practices of organic agriculture in farming systems is expected to have positive environmental effects. The use of local crop varieties in agro-ecosystems will have no negative environmental impact, since these will be traditional varieties adapted to the environments of the production areas.

The food processing micro-enterprises that will be supported through the project co-financing could have some environmental impact because of solid waste and waste water. However, the waste will mainly be organic material, no hazardous or environmentally harmful chemicals will be used, and the volume and the potential risks of contamination will be irrelevant. Nevertheless, during the design and implementation of such activities special attention will be given to minimize their environmental impact through training in and application of good practices of waste and wastewater management and recycling fully mitigating any pollution risks.

For all the above, and since the project will not address controversial issues in terms of the interests of the participants, **the project will have category C in the FAO EIA system, and therefore an environmental impact analysis or supplemental environmental impact assessments will not be required.**

3.2 RISK MANAGEMENT

Project risks have been identified and analyzed during the full project preparation phase, and mitigation measures have been incorporated in the project design (see section 3.2.1 below). With the support from and under the supervision of FAO, INIAP is responsible for the day-to-day management of these risks and the effective implementation of mitigation measures. INIAP is also responsible for monitoring the effectiveness of mitigation measures, adjusting mitigation strategies as needed and identifying and managing any eventual new risks not foreseen during project development in dialogue with FAO, Heifer and other concerned project partners.

The Project Progress Reports (see section 4.5.3) are the main tool for the monitoring and management of project risks. The reports include a section on systematic following up on identified risks and mitigation actions in previous reporting periods, as well as a section on

eventual new risks or risks that still require attention, their rating and mitigation actions including by whom and by when they should be completed. FAO will closely monitor the project risk management and follow up, if needed providing support for the adjustment and implementation of risk mitigation strategies. Reporting on risk monitoring and rating will also be part of the annual Project Implementation Review prepared by FAO and submitted to the GEF Secretariat (see section 4.5.3).

3.2.1 Risks and mitigation measures

The table 3.1 below summarizes all risks identified, their rating, and mitigation measures incorporated in the design of project components.

Table 3.1. Project risks, their rating and mitigation measures.

Risk type	**Risk level**	**Mitigation measures**
Lack of coordination among the many project stakeholders	Medium	Close cooperation among the many institutional stakeholders and partners involved in the project, both from public institutions and civil society and small farmers and indigenous organizations. Their commitment to support the project, demonstrated during the preparation and design phase, is backed by a significant co-financing, including from some small farmers and indigenous organizations. This cooperation will be realized through the participation of these institutions in the project committees (Steering Committee, Project Management Commettee, Local Committees). The project implementation arrangements (see section 4 below) will ensure the proper definition of roles and responsibilities and the coordination and cooperation among the parties for the effective implementation of the activities. The Project Manamgement Comittee will also have a crucial role in the coordination of activities.
New provincial governments after the 2014 elections, which may lead to changes in local policies related to the management of agrobiodiversity	Medium	Participatory methodologies to involve local communities in the development of policy proposals at provincial level will contribute to sustain changes in policies beyond changes in provincial administration. Workshops with GAD officials to explain the importance of agrobiodiversity, disseminate the project outputs and establish agreements on future commitments.
Lack of motivation and commitment among local stakeholders to undertake *in situ* agrobiodiversity management and other project activities	Low	Development of awareness raising activities and involvement of a high number of local partners and decision makers in implementation of project activities. Training actions at local level to reinforce the understanding of the multiple values of agrobiodiversity.
Low interest of producers to participate in Participatory Guarantee Systems or to meet on-farm agrobiodiversity standards	High	Strengthening the Participatory Guarantee System approach, having into consideration the traditional practices of indigenous communities. Designation of responsibilities for implementing project activities among farmers' organizations, in particular the

		implementation of Participatory Guarantee Systems for on-farm agrobiodiversity management and strengthening of market links for the products under guarantee via local fairs and awareness raising among consumers. Training farmers' organizations, communities and producers on agricultural biodiversity, organic agriculture and institutional empowerment.
Lack of recognition by consumers of the distinctive value of products from agrobiodiversity farms	Medium	Awareness campaigns on the importance of food sovereignty and security and the benefits offered by the conservation and sustainable use of agrobiodiversity. Capacity building of local and technical schools in education and awareness raising on the importance and use of agrobiodiversity in local diets. Publication of information materials about the importance of agrobiodiversity, addressed to a wide range of audience. Promotion of agrobiodiversity and its values in the weekly agro-ecological fairs and annual seed fairs in the canton seats.
Climate change risk	High	Several experiences (among others documented by FAO) show that agro-ecosystem resilience is closely related to their degree of diversity. Agro-ecosystems with high diversity and high vegetation cover integrating local and traditional varieties are less impacted by extreme weather events and they also recover faster after such events. This has among others been demonstrated in relation to the hurricane Mitch that hit Central America in 1998 and also the prolonged drought that hit the Uruguayan grasslands in 2008 where grassland with a diversity of native grass varieties was less affected and recovered significantly faster than grassland with high yielding introduced grass varieties. As such the resilience of agro-ecosystems is at the core of this proposed project aiming at increasing the agro-biodiversity managed by farmers based on indigenous knowledge and local varieties. The Project will promote the resilience of agro-ecosystems by supporting the implementation of agro-ecological principles building on diversity in farmers fields. This approach will allow for increased soil stability and fertility which supports: increased crop resistance to diseases and pests; increased capacity for regulating shortage or excess of water; establishment of microclimates that mitigate extreme temperatures by using living hedges, greater diversity and dynamics between different crops and varieties in crop rotation schemes that ensures continuous management and adaptation of biodiversity. The experienced Heifer technical team will, with technical backstopping from FAO, support the implementation of biodiversity agro-ecological plots in selected areas in four provinces and articulate the process of adaptation and seed multiplication in community banks in close collaboration with INIAP and the BADCs. INIAP has a

		training program and a validated technical assistance support system in the field that ensures the formation of groups of farmers managing the multiplication of seeds and planting material in each community that is reinforced by a system of exchange "farmer to farmer" and seed exchange fairs. In summery the Project will seek to enhance agro-ecosystem resilience to climate change by: - Expanding ex situ collections with an emphasis on studying and identifying species and varieties with traits important for the resistance to climate change introduced risks - Establishing seed banks and BADCs in selected areas of four provinces to support the recovery of varieties that are being lost, and adaptation, and identification of species and varieties with important climate resilience characteristics. - Providing technical assistance to seed producing farmers to facilitate their incorporation of this diversity and promising species in their seed multiplication systems, their management of records to validate the processes of adaptation, and their participation in an inventory of agro-biodiversity to look for characteristics important for climate resilience.

3.2.2 Fiduciary risks

At the request of INIAP, GEF resources shall be executed by FAO using the systems, standards, rules and regulations of the institution. An amount of USD 526 921 of GEF resources (see annex 3) will be executed by Heifer through a letter of agreement with FAO on provision of services to achieve the products: 1.1.4 Assessment methodology of diversity-based farming systems; 1.3.1 Proposals of provincial regulations on conservation and sustainable use of agrobiodiversity; 1.3.2 Integration of the value, sustainable use and conservation of agrobiodiversity in provincial Development and Land Use Plans; 2.3.1 Implementation of PGS for farming systems wherein good practices for agrobiodiversity conservation are applied; 2.3.2 training of farmers in PGS; 2.3.3 Proposal for a national label for products from biodiversity-based farming systems; 2.4.1 Strengthening the marketing channels for agro-ecological fairs; 2.4.2 Strengthening local food-processing micro-enterprises; 2.4.3 Development of agritourism routes.

Before the signing of the LoA, an independent evaluation will take place of Heifer's fiduciary standards to identify potential fiduciary risks and mitigation measures. According to information submitted by Heifer, at the time of preparing this Project Document, Heifer Ecuador has handled in the last five years, an average annual budget of USD 1 649 080 including funds from Heifer-International, the Andean Community of Nations, *Mundo Cooperante*, and is co-running a joint project with Acting for Life. Heifer has offices in Quito in Loja, and in Sierra Centro with computer equipment and necessary personnel.

Heifer currently has a financial team formed by four people (accountant; accountant-assistant; administrative human resources and accounting administrator; and project administrator) and

is in the process of recruiting a Financial and Administrative Manager, responsible for the area. In addition, Heifer has the following financial systems and procedures:
1.- An ERP system (Enterprise Resource Planning) is being implemented, which consolidates financial, programmatic and human resources information. This system is being standardized by Heifer International for all its programs and branch offices.
2.- The financial resources are handled through bank accounts under the name of Heifer Ecuador, and in the case funds are provided for a particular project, an account is opened specifically for this project. Each account maintains two signatures (National Directorate and Accounting).
3.- A financial administrative manual and an accounting manual (currently under revision, due to standardization and implementing process of the ERP system at the global level).
4.- An annual external audit of the national office, according to Heifer's the fiscal year (Jun-July) and project's are also audited by an external auditor annually, by total and annual amount. Quarterly financial monitoring of the projects is performed (internal audit) by the financial manager through supervision, correction, and training.

For the recruitment of staff Heifer has an approval procedure in conjunction with Heifer International. There are several types of recruitment. For consultancy services and equipment for a project, Heifer Ecuador develops a justification for the need of staff to be recruited or acquired (goals, needs, period of time, budget, etc.). Subsequently, CVs and Terms of Reference are presented to the programme manager who approves the recruitment. All the documentation is sent prior to Heifer International for consultations and approval. If the contracting is for a project with shared funds, this consultation and approval is done with the project management committee. Heifer reviews prior to recruitment three documents: Conflict of interest, Code of Conduct and anti-terrorism code. An internal selection is performed based on experience and knowledge based on CV and interview. Recruitment is done under all the legal regulations of the country.

For the acquisition of fixed assets for an amount above USD 1 000 three offers are collected and analyzed by the AF team and the program manager. The purchases are made based on the budget planning of the national office and projects. For the acquisition of infrastructure work, the same procedure, of analyzing the quote and CVs of the company or staff who will be providing the service, are followed.

Heifer Ecuador, through external evaluators, has carried out mid-term and final evaluations of its strategic plan, program and projects. Heifer International also undertake financial evaluations of their country branch offices in which it has financed projects. In the audits and evaluations that have been made there has not been any observation of irregularity in the office of Heifer Ecuador.

Based on the information submitted by Heifer on their fiduciary standards, the risk appears to be low to be confirmed in the independent evaluation before the signing of the LoA.

SECTION 4 – IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

4.1 INSTITUTIONAL ARRANGEMENTS

In addition to FAO as the GEF Agency, the main institutions involved in the project will be: MAE, INIAP, Foundation Heifer-Ecuador, MAGAP, local community organizations UNORCAC (Western area of the Imbabura province), CEPCU (canton Otavalo), La Esperanza water board, CEDEIN (canton Colta), CORPOPURUHA (canton Guamote), UCOCP (canton Paltas) and The Ecological Network of Loja, the GADs of Chimborazo, Imbabura and Loja, the municipal governments of Guamote and Saraguro and universities UTPL, ESPOCH and PUCE-IF.

MAE is the GEF Operational focal point of Ecuador responsible for the coordination of the programming of GEF resources and overseeing the Ecuador GEF portfolio the GEF agencies and partners in the implementation of the projects. The main responsibilities of MAE in the project will be monitoring of annual Project Implementation Review Reports (PIR) and it will be invited to the review of the mid-term and final evaluation of the project.

INIAP will be the main project Executing Partner of the project, and Heifer and MAGAP will be co-executing partners. The three implementing partners will be responsible for ensuring the coordination of the 3 components of the project and the coordination and collaboration with GADs, local community-based organizations, and academic institutions.

INIAP is a public, decentralized institution with legal status and administrative, economic, financial and technical autonomy. It has its own assets and budget, linked to the Ministry of Agriculture and Animal Husbandry. Its mission is: to generate and provide appropriate technological innovations, products, services and specialized training to contribute to the sustainable development of agriculture, forestry and agro-industry. In accordance with its mandate, the institutional objectives are: 1) to research, develop and apply scientific and technological knowledge to achieve a reasonable utilization and conservation of the natural resources of the agricultural sector; 2) Contribute to the sustained increase of sustainable production, productivity and qualitative improvement of agriculture, through the generation, adaptation, validation, and transfer of technology; and 3) Contribute to the development of the agricultural sciences to generate new human values, production sources and opportunities for a better society. INIAP has more than 30 years of work and experience in the conservation of agrobiodiversity and manages the National Bank of germplasm with 21,000 accessions.

The Ministry of Agriculture, Livestock, aquaculture, and Fisheries is the multi-sector leading institution, to regulate, establish norms for, facilitate, monitor and evaluate the management of agricultural production, livestock, aquaculture and fisheries of the country. It is responsible for promoting actions that will enable the rural development and encourage the sustainable growth of the production and productivity in the sector by encouraging the development of producers, in particular represented by small farmers, while maintaining the incentive to productive activities in general.

Heifer Ecuador is a non-governmental organization that works in rural development in Ecuador since 1954. The work of Heifer is oriented towards agro-ecology, the management of natural resources by small farmers, and the strengthening of farmer and indigenous groups, with the principles of gender equity and food sovereignty. In this context, its goal is to ensure farmers nutritional self-reliance, by promoting the control of the production, technology and

knowledge by small farmers, while ensuring the conservation of natural resources and the protection of agrobiodiversity.

The FAO, INIAP, MAGAP and Heifer will collaborate with executing agencies of other projects to identify opportunities and facilitate mechanisms to achieve synergies between relevant GEF as well as with other donor-supported projects. This collaboration will be using: (i) informal communications between GEF agencies and execution partners of other programs and projects; (ii) exchange of information and dissemination materials between the projects; (iii) participation in forums and inter-agency coordinating mechanisms on policies and action plans for the promotion and conservation of agrobiodiversity, with representatives of national and provincial institutions, local community-based organizations and civil society organizations. In order to ensure coordination and collaboration among the different initiatives, specific coordination tasks have been added to the tasks of the Project Coordination and the Project Management commettee (see section 4.2 in the FAO Project Document), and the implementation and results of these tasks should be reflected explicitly in the six-monthly project progress reports (PPR).

Among others, the project will develop a close collaboration with:

1) The project "Management of Chimborazo's natural resources", funded by the GEF, implemented by the FAO, and executed by the Provincial GAD of Chimborazo (GEF ID 3266). One of the objectives of this project is to conserve water resources produced by the paramo ecosystem. This objective will have a significant indirect impact in the conservation of agrobiodiversity, considering that water is usually the limiting factor in the Andean agro-ecosystems. The community organization and leadership processes to adopt conservation practices and management of natural resources will also provide mutual benefits for the two projects in Chimborazo. The coordination of the planning and implementation of project activities will be insured by the GAD of Chimborazo, which will be involved in the execution of both projects. Through the technical support of FAO, the monitoring of synergies to avoid duplication will also be insured.

2) The Small Grants Program (SGP) of the GEF focuses on the communities that live in the buffer zones of protected areas. During the fifth operational phase, the SGP is running the FSP "Our corridors for a good living", which goal is to promote economic and social connectivity. In Sierra Centro, the SGP is currently working in identifying project proposals that support, among other topics sustainable livelihoods through diversity-based crops systems.

3) The project "National Biodiversity Strategy ", funded by the GEF, implemented by UNDP Ecuador and executed by the Ministry of the Environment of Ecuador (GEF ID: 4863), which goal is to update the National Biodiversity Strategy including its Action Plan and report on the state of biodiversity. To ensure the coordination between the two proposals, steps have been taken to ensure that the present project will support some implementation activities of the Action Plan related to agrobiodiversity. The relationship between the two projects could become an opportunity for the Ministry of Environment and MAGAP have a dialogue at the technical level on agrobiodiversity.

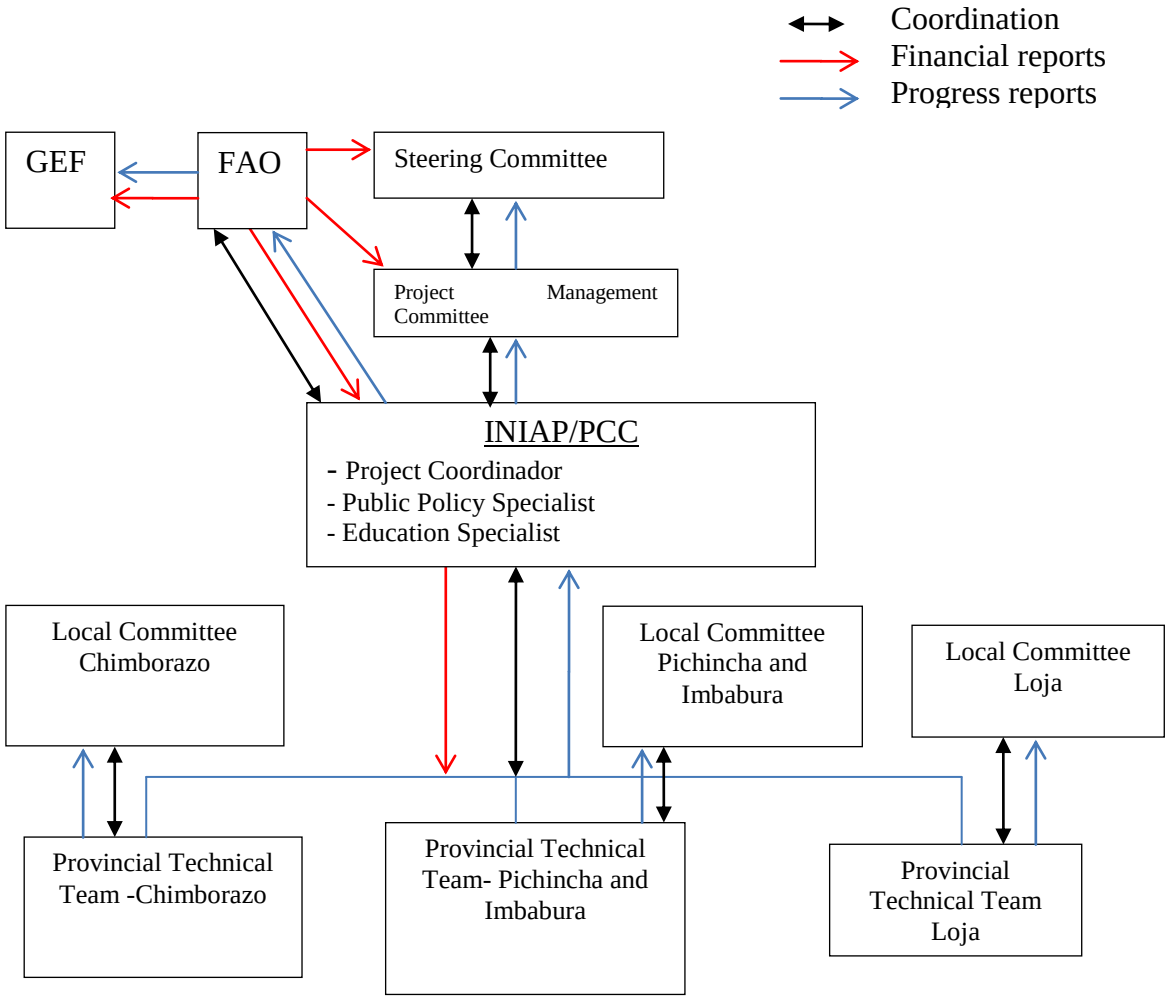
4) FAO is also the agency GEF for the Bolivia project "conservation and sustainable use of agrobiodiversity to improve human nutrition in five macro eco-regions" (GEF ID 4577). This project is in the process of the final review by the GEF Secretariat before the endorsement by

the CEO and will be implemented at the same time of this project. The Bolivia project is different in its approach. It does not include the *ex situ* conservation and is led by the Ministry of Environment and Water (MMAyA,). However, both projects share some objectives: to develop mechanisms to generate added value, create marketing channels and develop labels and a guarantee system for local diversity-based crop systems. FAO will facilitate the exchange of approaches and lessons learned between the two projects, and if it is feasible and desirable site visits.

4.2 IMPLEMENTATION ARRANGEMENTS

The Food and Agriculture Organization (FAO) will be the GEF Agency responsible for the supervision and provision of technical advice during the implementation of the project. The main implementing partner of the project will be the Government of the Republic of Ecuador represented by the INIAP, in collaboration with MAGAP and Heifer. A Project Steering Committee will be set up (PSC) (see below) in order to monitor and coordinate the planning of the implementation of the project, as well as three Local Committees (LC) for planning and monitoring activities at the local level. The day-to-day implementation of the project will be carried out through the Project Coordinating Committee (see below). MAGAP and Heifer, as co-executing partners, will support the activities related to the outputs for which they are responsible as set out in table 4.1. The management of the project will be carried out through the institutional structure that is presented in figure 4.1.

Figure 4.1. Project Implementation Structure



Roles and responsibilities of executing and co-executing partners

The FAO Representation in Ecuador, at the request of INIAP[25], will be in charge of the financial and administrative execution of the project (see roles and responsibilities of the implementing agency of the GEF below).

The Autonomous National Institute of Agricultural Research (INIAP) will be the national institution **responsible for the execution of the project**, and therefore directly responsible for: (i) the technical implementation of project activities; (ii) the daily management and coordination of the project; and (iii) financial planning and planning of procurement of minor goods, works and services (which will be procured by FAO). INIAP shall prepare and send to FAO- Ecuador six-monthly project progress reports (PPR), annual work plans and detailed budget (AWP/B), and all the necessary documentation for the preparation of the PIR (see section 4.5.3). Technical Coordination of the project (INIAP/PC see below) will be placed in the Department of National Plant Genetic Resources - DENAREF-, which is responsible for the *ex situ* conservation of agrobiodiversity through the management of the gene bank.

[25] After making the respective internal consultation and considering the legal criterion, INIAP requests FAO, through ex officio INIAP-DG-2014-0149-OF, to do the financial management of project resources.

Co-executing partners. MAGAP and Heifer will be co-executing partners supporting the operation of the project and ensuring timely delivery of inputs and outputs for which they are responsible (see table 4.1). In particular, they will be responsible for the implementation, coordination and monitoring of project activities under their technical responsibility, in collaboration with the other project partners. They will participate in the Project Management Committee, the Project Steering Committee, and local committees (see below) and will also collaborate with INIAP in the elaboration of the AWP/B, PPR and inputs for the PIR. Heifer will sign a LoA with FAO to transfer funds to cover the services needed to achive the products under Heifers' responsibility (See annex 3 and section 4.3.6)

Table 4.1. Distribution of technical responsibilities of outputs among INIAP, MAGAP and Heifer

Components and outputs	**Main Executing Partner**
Component 1: Integrating the sustainable use and conservation of agrobiodiversity in public policies and their implementation	
1.1.1 Development and implementation of the National Action Plan for the agrobiodiversity component of the National Biodiversity Strategy	INIAP
1.1.2 Coordination among Ministries and Decentralized Autonomous Governments on issues related to policies for the promotion and conservation of agrobiodiversity	INIAP
1.13. Proposal of a national public policy for the conservation and sustainable use of agrobiodiversity	
1.1.4 Methodology for the value assessment of diversity in traditional biodiversity-based farming systems	Heifer
1.2.1 Analysis of progress in the implementation of Farmers' Rights in Ecuador	MAGAP(General Coordination of Innovation)
1.2.2 Information campaign on Farmers' Rights	MAGAP(General Coordination of Innovation)
1.3.1 Proposals for provincial ordinances/regulations on conservation and sustainable use of agrobiodiversity	Heifer
1.3.2 Integration of the value, sustainable use and conservation of agrobiodiversity in Provincial Development and Land Use Plans	Heifer
Component 2: Scaling up of good practices in *in situ* and *ex situ* conservation and sustainable use of agrobiodiversity	
2.1.1 Establishment and expansion of crop collections in the National Genebank	INIAP
2.1.2 Collaboration between farmers and indigenous organizations and INIAP	INIAP
2.2.1Training of farmers in *in situ* management and use of agrobiodiversity	INIAP-MAGAP
2.2.2. Local inventories and community registers of agrobiodiversity	INIAP
2.2.3 Formalization of local seed fairs	INIAP
2.2.4 Establishment and strengthening of Bio-knowledge and Agriculture Development Centres and community seed banks	INIAP
2.3.1 Implementation of participatory guarantee systems for products from biodiverse cropping systems applying good practices for *in situ* agrobiodiversity management	Heifer
2.3.2 Training of farmers in Participatory Guarantee Systems	Heifer and MAGAP (General Coordination of Market Networks)
2.3.3. Proposal for a national label for products from biodiversity-based farming systems	Heifer
2.4.1 Strengthening local fairs of organic and diverse products	Heifer
2.4.2 Strengthening local community agribusiness	Heifer
2.4.3 Development of agro-tourism routes	Heifer
Component 3: Education and awareness of decision-makers, teachers and consumers about the environmental, nutritional, cultural and economic value of agrobiodiversity	

3.1.1 Information and awareness-raising among decision makers on the importance of agrobiodiversity	INIAP
3.2.1 Methodological Guide for education in the values of agrobiodiversity	INIAP
3.2.2 Training of teachers in the values of agrobiodiversity	INIAP
3.2.3 Incorporation of biodiversity in school curricula in education centers	INIAP
3.3.1 Dissemination materials promoting the value of agrobiodiversity	INIAP
3.3.2 Documentation of all project experiences	INIAP
3.3.3 Campaign to promote the conservation and use of agrobiodiversity	INIAP and MAGAP

The project has four entities involved in the project coordination and management:

• Project Steering Committee (PSC)
• Project Management Committee (PMC)
• Local Committees (LC)
• The Coordinating of the Project based in INIAP (INIAP/CP)

The Project Steering Committee (PSC) will oversee and coordinate the planning of the implementation of the project, will be composed of the Director General of INIAP (or his/her designee) who shall preside the PSC, the direction of Heifer (or his/her designee), the Minister of the MAGAP (or his/her designee) and the FAO representative (or his/her delegate). The PSC will take decisions on the overall management of the project and will be responsible for maintaining the strategic approach of the project's specific operational tasks. The PSC will hold at least one meeting a year, and its functions will include: (i) general supervision of the progress of the project and the achievement of expected results through the semiannual PPR; (ii) make decisions with regard to the organization, coordination and execution of the project; (iii) facilitate the cooperation between INIAP, Heifer and MAGAP and the parties involved in the project and the support of the project at the local level; (iv) bring to the attention of INIAP/PC other activities underway or planned to facilitate the collaboration between the project and other programs, projects and initiatives related to the *in situ* and *ex situ* conservation and management of agrobiodiversity, especially in the areas of the project; (v) facilitate that the co-financing is provided in a timely and effective manner; and (vi) review the PPRs and semi-annual financial reports and approve Annual Wrk Plans and Budgets (AWP/B).

Project Managment Committee (PMC) will be responsible for planning project activities, accompanying the execution of components and the specific products of the project, making operational decisions which give directions to the INIAP/PC (see below), and supervising the actions of the INIAP/PC. The PMC will be composed of technical staff from INIAP (Department of Genetic Resources -DENAREF), Heifer (Sierra Coordination), MAGAP (Direction of International Cooperation), and the FAO (GEF Project Task Manager). The PMC will give technical advice to the PSC and direct INIAP/PC and will keep INIAP/PC updated on other activities underway or planned to facilitate the collaboration between the project and other programs, projects and initiatives related to the in situ and ex situ conservation and management of agrobiodiversity, in particular in the project intervention areas. The PMC may also intervene in the evaluation of the technical progress and outputs of the project, and in the identification of possible solutions and/or changes in project activities when technical issues occur during the project implementation. The main functions of the PMC are: (i) direct the project; (ii) timely implement activities to achieve outputs and outcomes assigned; y (iii) effectively and efficiently utilize project resources assigned in accordance with the FAO Project Document.

Local Committees (LC). Three LCs will be established in project areas (Imbabura-Pichincha for the cantons of Otavalo and Cotacachi and the parish La Esperanza; Chimborazo for the cantons of Guamote and Lago Colta; and Loja for the cantons of Saraguro and Palta). The composition of the LCs will include representatives of the provincial and municipal GADs, indigenous and farmer's organizations and universities. The mandate of the LCs shall include: (i) general supervision of project activities implementation in their area particularly with regard to component 2; (ii) provide advice on public policies, actions and measures at the local level, in particular with regard to component 1; and (iii) promote communications between local and provincial institutions, local and indigenous organizations, universities, research institutions and civil society organizations.

Project Coordination (INIAP/PC). The technical implementation of the project will be conducted out of DENAREF at INIAP central office in Quito and three other offices in the provinces; Loja, the office of Heifer; Chimborazo, the INIAP office, in Imbabura/Pichincha, and the offices of INIAP/MAGAP. The executing partners, as co-financiers, will provide the necessary equipment for the activities of INIAP/PC personnel at the provincial level. INIAP/DENAREP will appoint an officer responsible for the technical supervision of the project and the review of the financial reports in conjunction with the Administrative and Financial Direction of INIAP. INIAP, in coordination with MAGAP and Heifer, shall prepare and send to the FAO Office in Ecuador semi-annual PPRs, AWP/B, and all the necessary documentation for the preparation of the PIR (see section 4.3.5).

The main function of the INIAP/PC will be to ensure the coordination and execution of the project and rigorous and effective implementation of the annual work plans in accordance with the guidelines and decisions of the PSC and PMC. The INIAP/PC will assume the functions of the secretariat of the PSC and PMC. In addition it will coordinate the work and will follow closely the implementation of project activities, will manage the daily aspects and requirements of the project, will coordinate the project interventions with other ongoing activities and ensure a high level of collaboration between the participating institutions and organizations at all levels (national, provincial and local). It will follow-up on the progress of the project and ensure the timely delivery of inputs and outputs. Under the rules and procedures of the FAO and in accordance with the present project document and the AWP/B, INIAP/PC will plan procurement and contracting processes and select providers of goods and services and will request FAO to process contracts and carry out procurement and payments. INIAP/PC will supervise and evaluate consultancies and their products (which will be the basis for payments). It will organize workshops and annual meetings for monitoring of the progress of the project and develop AWP/B which will be presented by the PMC for approval by the PSC. Under the supervision of the PMC, the INIAP/PC will be responsible for the implementation of the M&E plan for the project, managing its monitoring system and communication programme, elaborate PPRs, and facilitate access to all needed information for the mid-term and the final evaluation. The INIAP/PC will present the PPRs and the AWP/Bs to the PSC and FAO, with information on activities and progress in the achievement of outcomes and outputs, and the financial reports on expenditure (the latter prepared by FAO).

INIAP/PC will have the following personnel financed through co-financing: (i) DENAREF Quito- headquarters, will provide the technical representative for the project, seven technical specialists in conservation, management and use of agrobiodiversity and one part-time

administrative assistant[26]; and (ii) situated in the provinces INIAP will provide, from its Transfer Centers, part-time deligates, MAGAP will provide delegates from its provincial offices, and Heifer will provide an area coordinator.

In addition INIAP/PC will be strengthened by the following staff funded by GEF resources and with headquarters in Quito and in the provinces (See detailed Terms of Reference in Annex 6):

Quito headquarters:

a) A Project Coordinator (full-time). S/he will be responsible for daily management and technical supervision, including: preparing AWP/B and allocating tasks to INIAP/PC staff; preparing ToRs, technical requirements for consultancy services, contracting documents and material and equipment procurement documents; providing technical supervision and guidance to the INIAP/PC staff and other project partners in implementing project activities; conducting regular field supervision and providing on-site guidance to the technical staff of provincial institutions and local organizations involved in the project; day-to-day communication and coordination with INIAP/PC and other staff at headquarters, provincial institutions and organizations involved in the implementation of the project; prepare PPRs and provide inputs for the AWP/Bs.
b) A Public Policy specialist (full-time), to support the implementation of Component 1.
c) A Capacity- building and Education specialist (full-time) to support Component 3.

Situated in the provinces to support implementation of Component 2 and some of the activities in Component 3:

(a) An Agrobiodiversity Conservation specialist, full-time,
(b) Two full-time rural promoters
c) A Marketing and Value-Chain specialist, part-time
d) An Agro-tourism Specialist, part-time

Roles and responsibilities of the GEF Agency

The Food and Agricultural Organization will be the GEF implementing agency. FAO will provide supervision and technical assistance during the implementation of the project. The administration of the GEF resources will be carried out in accordance with the rules and procedures of the FAO, and in accordance with the agreement between FAO and the GEF Trustee.

As the GEF implementing agency for the project, FAO will:

- Manage and disburse funds from GEF in accordance with the rules and procedures of the FAO;
- Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers and the rules and procedures of FAO;
- Provide technical guidance to ensure that appropriate technical quality is applied to all activities of the project;
- Carry out at least one supervision mission per year; and

[26] Technical representative: Cesar Tapia; other DENAREF technical specialists: Alvaro Monteros, Marcelo Tacan, Nelly Paredes, Edwin Naranjo, Edwin Borja, Andres Caceres, Ricardo Andrade; administrative assistant: Maria Batalla

- Report to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, on project progress and provide financial reports to the GEF Trustee.

Roles and responsibilities of the GEF fund administrator

At the request of INIAP, in addition to being the GEF implementing agency, FAO will be the administrator of the GEF resources and will be in charge of the financial execution, procurement and contracting of goods and services following rules and procedures stipulated in the FAO manual (mainly in the sections No. 502 and 507). In relation to the activities that fall under the responsibility of Heifer, based on the approval by the PMC, the INIA/PC will provide the clearance for the biannual transfer of resources for the implementation of products under Heifers' responsibility. In the case of the products under the responsibility of INIAP, the INIAPC will request FAO to execute payments for the implementation of their services and products.

As administrator of the GEF resources, FAO will submit semi-annual financial statements of expenditures to INIAP/PC, the PMC and the PSC in accordance with the AWP/B and the procurement plan. The procurement plan should be updated every six month and approved by the PMC. FAO will perform budget revisions to keep the budget current in the financial system of FAO (FPMIS) and will communicate revised budgets to INIAP/PC, the PMC and the PSC to facilitate project planning and execution. In collaboration with INIAP/PC and the PMC, FAO will participate in the planning and realization of contracting and procurement processes including selection of providers and consultants and issuing of contracts. FAO will also pay for products and services delivered after approval by INIAP/PC in consultation with the PMC.

Roles and responsibilities of FAO as a GEF agency and administrator of GEF resources, including FAO internal arrangements

The FAO Representative in Ecuador, assisted by the FAO Project Task Manager (see below), will be the Budget Holder (BH) and responsible for the management of the GEF resources. In coordination with the Lead Technical Officer (LTO) and the Lead Technical Unit (LTU) of FAO (see below), the BH will be responsible for the operational, administrative and financial management of the project. As a first step in project start-up, the FAO Representation in Ecuador will establish an interdisciplinary Project Task Force within FAO to guide the implementation of the Project. The BH will in particular be responsible for: (i) submitting semi-annual financial statements of expenditures of the project to INIAP, PMC and the PSC; (ii) procurement of goods and contracting of services for project activities, in accordance with the rules and procedures of FAO, at the request of INIAP/PC, and in accordance with the approved AWP/B; (iii) payments for goods and services delivered after approval by INIAP/PC in consultation with the PMC; and (iv) preparing revisions to the budget for approval by the FAO-GEF Coordination Unit at least once a year or when required to ensure that the budget in the FAO system is up to date.

The FAO Representative in Ecuador will, in consultation with the FAO Lead Technical Officer (LTO), Lead Technical Unit (LTU) and the FAO-GEF Coordination Unit, give no-objection to Annual Work Plans and budgets (AWP/B), submitted by INIAP/PC as well as PPRs to be approved by the LTO of the project. The FAO Representative, as BH, will submit the PPRs to the FAO-GEF Coordination Unit for final clearance and uploading in the FPMIS.

A Project Task Manager (PTM) will be under direct supervision of the FAO Representative in Ecuador and will support the FAO Representative in the supervision of the management and progress of the project as well as en FAO participation in procurement and contracting processes. The PTM will also ensure the provision of technical guidance to the project, in close consultation with the LTO, and the Project Task Force. The PTM will be paid from GEF fee resources and will have the following main tasks:

- Review and provide comments on project progress reports from INIAP/CC and submit them to the LTO for approval and subsequently to the FAO GEF Coordination Unit for final approval and uploading on the FPMIS;
- Participate in annual project progress review and planning workshops, and review, provide comments, and advise the FAO Representative on giving no-objection to AWP/B in consultation with the LTO, LTU and the FAO- GEF Coordination Unit;
- Review procurement and contract documentation of contracts and acquisitions to be financed by GEF resources and advise the FAO Representative on giving no-objection for issuing contract, in close consultation with the LTO and the FAO GEF Coordination Unit;
- Review reports on executed co-financing to be submitted every year (June);
- Review the six-monthly financial statement of expenditure, prepared by the FAO finance officer, before submitting it to the INIAP/PC, PMS and the PSC
- Conduct periodic supervision missions and support the provision of FAO technical and results-based management input to the project;
- Support the LTO in preparation of the annual Project Implementation Review (PIR) report;
- Represent FAO, if required by FAO Representative, in the Project Steering Committee and interview and selection panels for key project positions to be financed by GEF resources, the panels will be constituted by the PMC; and
- Prepare draft TOR for mid-term and final evaluations, in consultation with the FAO Evaluation Office, the LTO, the LTU and the FAO-GEF Coordination Unit, support the organization of the mid-term and final evaluations, contribute to the development of an eventual agreed adjustment plan in project execution approach and supervise its implementation.

FAO Lead Technical Unit (LTU) will be the Division of Plant Production and Protection of the Agricultural Department. The UTL will assign a Lead Technical Officer (LTO) with experience in *in situ* and ex *situ* conservation and use of agrobiodiversity. The LTO will provide technical guidance to the project and the PTM, responding to requests from the INIAP and the PMC, on specific technical issues during the implementation of the project. The LTO, supported by the LTU when needed, will be responsible for:

- review and ensure clearance by the relevant FAO technical officers of all the technical Terms of Reference (TOR), LOAs, and contracts to be performed under the project and to CVs and technical proposals short-listed by the PMC for key project positions, goods, minor works, and services to be financed by GEF resources;
- supported by the PTM, review and insure clearance by the relevant FAO technical officers of final technical products delivered by consultants and contract holders financed by GEF resources before the final payment can be processed;
- assist with review and provision of technical comments to draft technical products/reports on request from the PMC during project execution;

- review and approve PPRs submitted by INIAP/PC to the FAO Representation in Ecuador in coordination with PMO;
- support the FAO Representative in reviewing, revising and giving no-objection to AWP/B submitted by INIAP/PC and to be approved by the PSC;
- prepare the annual Project Implementation Review report, supported by the PTM and inputs from INIAP/PC, to be submitted for clearance and completion by the FAO-GEF Coordination Unit which will subsequently submit the PIR to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. The LTO must ensure that INIAP/PC has provided information on co-financing provided during the course of the year for inclusion in the PIR;
- field annual (or as needed) project supervision missions;
- review and revise TORs for the mid-term evaluation, participate in the mid-term evaluation workshop with all key project stakeholders, development of an eventual agreed adjustment plan in project execution approach, and supervise its implementation supported by the PTM.
- review and revise TORs for the final evaluation, participate in the final project closure workshop with all key project stakeholders and the development of and follow up on recommendations on how to insure sustainability of project outputs and results after the end of the project.

The FAO-GEF Coordination Unit will review and approve project progress reports, project reviews, and financial reports and budget revisions. The coordination unit will review and clear the annual PIR and undertake supervision missions if considered necessary. The PIRs will be included in the FAO GEF Annual Monitoring Review submitted to GEF by the GEF Coordination Unit. The GEF Coordination Unit will also participate in the mid-term and final evaluations and the development of corrective actions in the project implementation strategy in the case needed to mitigate eventual risks affecting the timely and effective implementation of the project. The GEF Coordination Unit will in collaboration with the FAO Finance Division request transfer of project funds from the GEF Trustee based on six-monthly projections of funds needed.

The FAO Finance Division will provide annual Financial Reports to the GEF Trustee and, in collaboration with the GEF Coordination Unit, call for project funds from the GEF Trustee on a six-monthly basis.

4.3 FINANCIAL PLANNING AND MANAGEMENT

4.3.1 Financial plan (by component, outputs and co-financier)

The total cost of the project will be 7 846 535 USD, of which 1 250 000 USD will be funded by a grant from the GEF and 6 596 235 USD through co-financing from: the INIAP (652 260 USD); the MAGAP (95 207 USD); Heifer (600 000 USD); the GAD Imbabura Province (500 000 USD); the GAD Chimborazo province (1 150 000 USD); the Guamote' mayor office (645 000 USD);Saraguro' mayor office (30 300 USD); the GAD Loja Province through DEPROSUR (430 000 USD); the Pontifical Catholic University of Ecuador - Ibarra (465 000 USD); Technical University- Loja (815 100 USD); Polytechnic University of Chimborazo (351 800 USD); the UNORCAC (80 000 USD); CEDEIN (45 820 USD); CEPCU (68 748); and FAO (667 000 USD).

Table 4.2 presents the cost per component, product and a source of financing and the table 4.3 shows the type and sources of cofinancing confirmed. FAO, as agency of the GEF, shall be solely responsible for the implementation of the GEF resources and co-financing of the FAO.

Table 4.2: Project Cost by Component, outputs and co-financier

Component/output	INIAP	Heifer	FAO	Decentralized autonomous governments	MAGAP	Farmers and indigenous organizations	Universities	Total Co-financing	% Co-financing	GEF	% GEF	Total
Comp. 1: Ag BD Integrated into public policy	**5,000**	**83,000**	**-**	**71,600**	**5,207**	**25,300**	**127,700**	**317,807**	**78%**	**90,920**	**22%**	**408,727**
O 1.1.1: National Plan of Action for the implementation of NSB	-	-	-	-	-	15,000	60,200	75,200	78%	21,400	22%	**96,600**
O 1.1.2: Public Policy Proposal on Ag-BD	-	-	-	-	-	-	43,000	43,000	78%	12,200	22%	**55,200**
O 1.1.3: Coordination Mechanism for policies and programs on Ag-BD	-	2,000	-	-	-	-	22,500	24,500	77%	7,300	23%	**31,800**
O 1.1.4: Methodological guide to assess the value of agrobiodiversity	5,000	52,000	-	-	-	7,500	2,000	66,500	89%	8,420	11%	**74,920**
O 1.2.1: Implementation of the program on farmers' rights	-	-	-	1,000	-	500	-	1,500	17%	7,300	83%	**8,800**
O 1.2.2: Campaign on farmers' rights (100% co-financing)	-	3,500	-	46,300	5,207	2,300	-	57,307	100%		0%	**57,307**
O 1.3.1: Provincial ordinances/regulations of Ag-BD	-	22,800	-	21,950	-	-	-	44,750	63%	26,100	37%	**70,850**
O1.3.2: Integration of the value of Ag-BD in DLUPs	-	2,700	-	2,350	-	-	-	5,050	38%	8,200	62%	**13,250**
Comp. 2: Scaling up good practices in situ and ex situ conservation	**641,760**	**253,000**	**667,000**	**2,482,200**	**60,000**	**133,868**	**1,444,200**	**5,682,028**	**86%**	**933,711**	**14%**	**6,615,739**
O 2.1.1: Expansion of crop collections	363,360	-	-	5,000	-	-	977,440	1,345,800	96%	50,620	4%	**1,396,420**
O 2.1.2: Collaboration agreements on integrating ex situ conservation and in situ management of Ag-BD	26,000	-	-	-	-	-	-	26,000	57%	19,620	43%	**45,620**
O 2.2.1: Training of rural families in Ag-BD management	18,000	7,800	116,667	174,932	-	12,118	-	329,517	82%	73,790	18%	**403,307**
O 2.2.2: Local inventories of Ag-BD	29,400	12,800	116,667	25,000	-	1,200	-	185,067	71%	75,390	29%	**260,457**
O 2.2.3: Local seed fairs	10,200	10,800	116,666	19,299	-	2,500	-	159,465	82%	35,790	18%	**195,255**

O 2.2.4: Bio-knowledge Centers and community seed banks	97,000	8,500	-	1,626,969	-	11,200	466,760	2,210,429	99%	32,300	1%	**2,242,729**
2.3.1: Participatory Guarantee Systems and accreditation	-	10,000	-	21,500	20,000	6,000	-	57,500	49%	58,860	51%	**116,360**
O 2.3.2: Training and scaling up production of certified products	84,000	119,700	-	281,200	-	60,300	-	545,200	59%	378,690	41%	**923,890**
O 2.3.3: National label for products from agrobiodiversity farms	-	20,000	-	10,000	-	-	-	30,000	50%	30,040	50%	**60,040**
O 2.4.1: Local fairs selling biodiversity-based products	5,000	40,000	317,000	179,320	40,000	16,600	-	597,920	86%	101,342	14%	**699,262**
O 2.4.2: Support to community micro-enterprises (100% co-financing)	-	9,400	-	18,980	-	19,600	-	47,980	100%		0%	**47,980**
O 2.4.3: Support to agritourism routes	8,800	14,000	-	120,000	-	4,350	-	147,150	66%	77,269	34%	**224,419**
Comp. 3: Educating and raising awareness on Ag-BD	**5,500**	**28,000**	**-**	**201,500**	**30,000**	**4,600**	**60,000**	**329,600**	**74%**	**116,370**	**26%**	**445,970**
O 3.1.1: Raising awareness among decision-makers	4,000	4,000	-	20,000	-	300	-	28,300	64%	16,040	36%	**44,340**
O 3.2.1: Methodological guide for education in Ag-BD	1,500	6,000	-	24,000	-	1,500	-	33,000	57%	25,200	43%	**58,200**
O 3.2.2: School teachers trained in the implementation of the methodological guide	-	-	-	14,200	-	300	-	14,500	43%	19,300	57%	**33,800**
O 3.2.3: Incorporation of agrobiodiversity use and conservation in education	-	-	-	21,500	-	1,500	-	23,000	46%	27,350	54%	**50,350**
O3.3.1: Dissemination materials and video (100% co-financing)	-	-	-	35,000	-	500	-	35,500	100%		0%	**35,500**
O 3.3.2: Document integrating all project products and lessons learned	-	10,000	-	29,000	-	500	30,000	69,500	80%	17,900	20%	**87,400**
O 3.3.3: Promotional campaign on the nutritional value of Ag-BD	-	8,000	-	57,800	30,000	-	30,000	125,800	92%	10,580	8%	**136,380**
Gestion del proyecto	**-**	**236,000**	**-**	**-**	**-**	**30,800**	**-**	**266,800**	**71%**	**108,999**	**29%**	**375,799**
Total Project	**652,260**	**600,000**	**667,000**	**2,755,300**	**95,207**	**194,568**	**1,631,900**	**6,596,235**	**84%**	**1,250,000**	**16%**	**7,846,235**

Table 4.3: Source and type of confirmed co-financing

Sources of co-funding	Name of co-funder	Type of co-funding	Amount ($)
Government	INIAP	In-kind	515 460
Government	INIAP	In-Cash	136 800
GEF Agency	FAO	In-kind	350 000
GEF Agency	FAO	In-Cash	317 000
National NGO	Heifer	In-Kind	200 000
National NGO	Heifer	In Cash	400 000
Government	MAGAP	In-kind	95 207
Provincial government	GAD - Imbabura	In-kind	440 000
Provincial government	GAD - Imbabura	In Cash	60 000
Provincial government	GAD - Chimborazo	In-kind	600 000
Provincial government	GAD - Chimborazo	In Cash	550 000
Provincial government	GAD - Loja (DEPROSUR)	In-kind	400 000
Provincial government	GAD - Loja (DEPROSUR)	In Cash	30 000
Provincial government	Guamote Mayor's office	In-kind	600 000
Provincial government	Guamote Mayor's office	In Cash	45 000
Provincial government	Saraguro Mayor's office	In-kind	30 300
Indigenous Organization	UNORCAC	In-kind	20 000
Indigenous Organization	UNORCAC	In Cash	60 000
Indigenous Organization	CEPCU	In-kind	47 300
Indigenous Organization	CEPCU	In Cash	21 448
Indigenous Organization	CEDEIN	In Cash	45 820
University	PUCE-SI	In-kind	360 000
University	PUCE-SI	In Cash	105 000
University	ESPOCH	In-kind	321 800
University	ESPOCH	In Cash	30 000
University	UTPL	In-kind	599 900
University	UTPL	In Cash	215 200
Total Co-funding			**6 596 235**

4.3.2 GEF Inputs

The funding requested from the GEF will be assigned to the incremental costs to generate global environmental benefits (see section 1.1.1 b) complementing the co-financing of FAO and national and local counterparts. The GEF resources will finance technical assistant consultants, local transport, training workshops to validate technical outputs of the project, inputs such as seeds and plants, and training and dissemination materials. For the detailed budget of GEF resources please see annex 3.

4.3.3 Government inputs

The government of Ecuador in-kind co- financing will be provided through INIAP, MAGAP the provincial GADs and municipalities. It will mainly consist in staff time, office space and utilities and support for travel. It will also consist in supervision and monitoring, as well as support for the activities of collection and conservation of seeds and germplasm

characterization within the Germplasm Bank. The government cash co-financing will support materials and the purchase of equipment for community seedbanks and local inventories, logistical support for seed fairs, field visits expenses, infrastructure for the Bio-knowledge and Agriculture Development Centers, development of communication campaigns and training for the scaling-up biodiversity-based production systems.

4.3.4 FAO inputs

FAO will provide technical assistance, support, training and supervision of the implementation of the activities funded by GEF resources. The GEF project will complement and will be co-financed by two other projects executed by the FAO representation in Ecuador:

- GCP/RLA/183/SPA "production and promotion of use of quality seed of basic grains and tubers by small farmers in the Andean region of Ecuador", which has developed methodologies for the production of native seeds of potatoes, corn, beans and quinoa. These methodologies will support the training of rural families in *in situ* conservation and sustainable use of agrobiodiversity and increase local inventories of agrobiodiversity. This activity contributes to the result 2.2.

-TCP/ECU/3402 "Strengthening the processes of inclusion of family farming in the public procurement of food", which objective is to contribute to the processes of linking family-based agriculture with procurement done by the State, through capacity development and strengthening cooperation among farmers, the improvement of productivity and marketing plans, in compliance with the regulations of the National Institute of Public Procurement. This activity contributes to the result 2.4.

4.3.5 Other co-financiers inputs

As co-executing partner Heifer will co-finance the implementation of the three components in terms of technical assistance and coordination facilitated by its staff, as well as financing travel and training workshops in the communities. Heifer's office in Loja will host the project team assigned to this province. Specifically in the component 1, Heifer will finance the assessment of the value of agrobiodiversity, which results will be used to formulate public policies. In component 2, its investment is related to the purchase of inputs, implementing biodiversity-based cropping systems, training in PGS and support for the construction of agritourism routes. In component 3, Heifer has pledge support to finance part of the publications.

Co-financing from the indigenous organizations (mostly In-kind) UNORCAC, CEPCU and CEDEIN is related to the community land where the project will intervene. For instance their contribution will be in their own seed collection, labor, and small infrastructure for community seed-fairs.

The universities' (PUCE-SI, ESPOCH and DLUP) co-financing consist in technical assistance for the expanding of areas under diverse cultivation systems and infrastructure in terms of their laboratories and germplasm banks.

4.3.6 Financial management of and reporting on GEF resources

Financial management and reporting in relation to the GEF resources will be carried out in accordance with FAO's rules and procedures and the Financial Procedures Agreement between FAO and the GEF Trustee. In accordance with the project budget FAO will carry out the operations for disbursement, procurement and contracting for a total of 1 250 000 USD of GEF resources. FAO will maintain a separate account in US dollars for the GEF resources of the project showing all income and expenditure.

On the basis of this project document and the letter of endorsement issued by the Ministry of Environment to the GEF, for the execution of activities of which Heifer is the co-executing partner, FAO will sign a Letter of Agreement (LoA) with Heifer for the transfer of USD 526 921 of GEF resources (see details on the budget in Annex 3). Heifer will provide execution services for these funds in accordance with their own rules, regulations, and procedures, and in accordance to the rules and regulations of the FAO (mainly FAO manual sections No. 502 AND 507) and the fiduciary standards of the GEF, as will be described in the LoA, in order to ensure an adequate management and use of project funds. Heifer shall maintain a bank account in US dollars for the funds received from the FAO, in accordance with accepted accounting standards (showing income and expenses).

Financial statements and reporting

All the financial reports shall be in US dollars and shall be prepared by FAO with inputs from Heifer. Within 10 working days from the end of each semester, i.e. before the July 15 and January 15, the FAO Representation shall deliver six-monthly financial statement of expenditures of the GEF resources to the INIAP/PCC, the PSC, and the PMC[27]. The financial report must be made on the basis of FAO regulations (manual 502 and 507).

FAO shall prepare the following financial reports on the use of GEF resources using FAO's FPMIS analysis.

1. details of project expenditures on an output-by-output basis, reported in line with project budget lines as set out in the project budget included in this Project Document appendix 3, as at 31 December each year;
2. an annual budget revision in accordance with the expenses incurred and the AWP/B approved by the PSC. The revision shall be prepared in accordance with FAO guides, standards and procedures and shall be approved by the BH (FAO Representative in Ecuador), the LTO, and FAO-GEF Coordination Unit; and
3. a final statement of account in line with the project budget included in this Project Document appendix 3, reflecting actual final expenditures under the project, when all obligations have been liquidated;

Financial reports for submission to the donor (GEF) will be prepare in accordance with the provisions of the Financial Procedures Agreement with the GEF Trustee and submitted by FAO Finance Division (CSFE).

Disbursement of Funds

[27] The purpose of the financial statement is to list the expenditures incurred on the project on a six monthly basis so as to monitor project progress and to reconcile products achieved with expenditures incurred during the six months period.

Based on the LoA with Heifer, FAO will transfer USD 526 921 to Heifer in installments as outlined in the AWP/B. The first installment of USD 52 700 (10 percent of the total amount of the LoA) shall be advanced to Heifer within two weeks following signature of the LoA and the submission to INIAP/PC and FAO of a first semester work plan for the execution of the GEF financed project activities under the responsibility of Heifer as described in this Project Document. Heifer shall prepare and submit to FAO, in the framework of the AWP/B, six-months work plans and detailed budget to facilitate the predictability of the necessary funds.

Heifer shall prepare and submit to the PMC and FAO six-monthly work plan including the detailed budget for the following six months as well as a progress report on the achievement of the products under Heifer's responsibility (see section 4.5.3 below) and a six monthly statement of expenditures of GEF resources. When these reports have been approved by the PMC and FAO, FAO disbursed the next installment of funds based on authorization from INIAP. The FAO Representative in Ecuador, supported by the FAO Project Task Manager, should certify that reporting requirements under the terms of the LoA have been met and that project progress reports for the activities completed have been submitted to and accepted by FAO as showing satisfactory management and use of GEF resources. Reports should be submitted to the LTO/LTU for review and and clearance and to the GEF Coordination Unit for review and clearance of the transfer of funds. All reports should be posted on the FPMIS.

Responsibility of cost overruns

The BH will be responsible for the use of the funds of the GEF in strict compliance with this Project Document . FAO will be authorized to make variations not exceeding 20 per cent on any total output budget line or any cost category line of the project budget provided that the total allocated for the specific budgeted project component is not exceeded and the reallocation of funds does not impact the achievement of any project outputs. Any variations exceeding 20 per cent on any total output budget line or any cost category line, that may be necessary for the proper and successful implementation of the project, shall be subject to prior consultations with and approval by the FAO-GEF coordination Unit to confirm the budget revision will not impact the overall design and scope of the project including impacting the achievement of project outputs and outcomes. If this cannot be confirmed the FAO-GEF coordination Unit shall consult with the GEF Secretariat prior to the eventual adoption of the budget revision. Under no circumstances higher spending than approved by the GEF can take place. Cost overruns will be the sole responsibility of the budget holder.

Audit

The project shall be subject to the internal and external auditing procedures provided for in FAO financial regulations, rules and directives and in keeping with the Financial Procedures Agreement between the GEF Trustee and FAO.

The audit regime at FAO consists of an external audit provided by the Auditor-General (or persons exercising an equivalent function) of a member nation appointed by the Governing Bodies of the Organization and reporting directly to them, and an internal audit function headed by the FAO Inspector-General who reports directly to the Director-General. This function operates as an integral part of the Organization under policies established by senior management, and furthermore has a reporting line to the governing bodies. Both functions are required under the Basic Texts of FAO which establish a framework for the terms of reference

of each. Internal audits of impress accounts, records, bank reconciliation and asset verification take place at FAO field and liaison offices on a cyclical basis.

4.4 PROCUREMENT

At the request of INIAP/PC, FAO will acquire the equipment and services referred to in the budget (Annex 3 of this Project Document) and in the AWP/B, in accordance with the rules and regulations of FAO.

Careful procurement planning is needed to ensure that the goods, services and personnel are timely hired and under the principle of “best value for money”. It requires an analysis of the needs and limitations, including a reasonable projection of the time required to perform a procurement process. The procurement and contracting will follow FAO rules and procedures for the acquisition of materials, equipment and services (for example, sections 502 and 507 of the Manual) for technical cooperation projects. Section 502: "acquisition of goods, works and services", sets out the principles and procedures that apply in the acquisition of all goods, works and services, on the part of the Organization, in all its offices and in all locations, with the exception of the actions of acquisition, which is described in Appendix A - procurement that is not governed by section 502 of the Manual. In addition, section 507 of the Manual sets out the principles and regulations that govern the use of LoA by FAO, for a proper acquisition of services by eligible entities in a transparent and impartial manner, considering the cost-effectiveness in order to achieve an optimal combination of expected benefits and costs (“best value for money").

Based on FAO guidelines for the project cycle, the BH will prepare an annual procurement plan for the main services and products, which will form the basis for acquisitions orders during implementation. The first procurement plan will be prepared before the beginning of the project. The plan should include a description of the goods and services needed to be procured, an estimated budget and source of funding, and the timetable and the methodology to be applied in the procurement process. In situations where exact information is not available, the procurement plan should at least contain reasonable projections, which will be adjusted as the information is available. At the beginning of each year INIAP/PC will update the procurement plan of the project (Annex 5) for approval by the PMC and the FAO Representative in Ecuador.

The procurement and contracting activities to be undertaken in the framework of the LoA with Heifer also fall in this Plan, and in the respective monitoring procedure, which is described in the following paragraph. Every six months, the INIAP/CP updates the plan, obtains the approval of the PMC and send it to the FAO Representative in Ecuador for final approval.

The supervision of the procurement process by the PMC and the FAO Budget Holder will take place as follows:

a. All consultant contracts for an amount greater than USD 10,000 will require the involvement of the PMC in the selection process, and prior authorization of the recruitment process, terms of reference and the curriculum vitae (CV).
b. All contracts with private institutions or non-governmental organizations will require the prior approval of the PMC of the recruitment process, terms of reference and technical proposals

c. There will be no direct purchase of individual goods (non-expendable) by an amount greater than USD 20,000 USD. All purchases of goods that are not within the annual procurement plan shall require the prior authorization of the PMC, the bidding process for the materials and tenders (individual purchases above USD 2,500 USD and under USD 20,000), technical specifications and price comparisons offered (individual purchases less than USD 20,000).
d. All documentation relating to purchases of non-expendable goods and procurement of services (except consultancies) related to training, workshops and events carried out by Heifer under the LoA will be subject to the review of FAO along with the financial reports.

4.5 MONITORING AND REPORTING

Monitoring and evaluation of progress in achieving project results and objectives will be done based on the targets and indicators established in the Project Results Framework (Appendix 1 and described in section 2.3 and 2.4 above). The project Monitoring and Evaluation Plan has been budgeted at USD 94 990 (see Table 4.4 below). Monitoring and evaluation activities will follow FAO and GEF monitoring and evaluation policies and guidelines. Monitoring and evaluation will also facilitate learning and mainstreaming of project outcomes and lessons learned in relation to the incorporation and consolidation of diversity-based crop systems in Andean communities and the integration of conservation and management of agrobiodiversity in public policies

4.5.1 Oversight and monitoring responsibilities

The M&E task and responsibilities, clearly defined in the project's detail Monitoring Plan (see below) will be achieve through: (i) day-to-day monitoring and supervision missions of project progress (INIAP/PC); (ii) technical monitoring of agrobiodiversity "status" indicators in project intervention areas (INIAP/PC and Heifer in coordination with local organizations and other project stakeholders); (iii) specific monitoring plans for the implementation of best practices for production and commercialization of guaranteed biodiversity-based agricultural products (component 2) and awareness raising activities (component 3) (INIAP/PC and Heifer supported by indigenous and farmer's organizations involved in the project); (iv) mid-term review and final evaluation (independent consultants and Evaluation Office of the FAO); and (v) continual oversight, monitoring and supervision missions (FAO).

At the initiation of implementation of the Project, INIAP/PC will set up a project progress monitoring system. Participatory mechanisms and methodologies for systematic data collection and recording will be developed in support of outcome and output indicator monitoring and evaluation. During the inception workshop (see section 4.5.3 below), M&E related tasks to be addressed and finalized will include: (i) presentation and clarification (if needed) of the project's Results framework with all project stakeholders; (ii) review of indicators and their baseline; (iii) drafting the required clauses to include in consultants' contracts to ensure they complete their M&E reporting functions (if relevant); and (iv) clarification of the respective M&E tasks among the Project's different stakeholders. One of the main outputs of the workshop will be a detailed monitoring plan agreed to by all stakeholders based on the monitoring and evaluation plan summery presented in section 4.5.4 below.

The day-to-day monitoring of the Project implementation will be the responsibility of INIAP/PC led by the preparation and implementation of an AWP/B followed up through six-monthly PPRs. The preparation of the AWP/B and six-monthly PPRs will represent the product of a unified planning process between main project partners. As tools for results-based-management (RBM), the AWP/B will identify the actions proposed for the coming project year and provide the necessary details on output targets to be achieved, and the PPRs will report on the monitoring of the implementation of actions and the achievement of output targets. Specific inputs to the AWP/B and the PPRs will be prepared based on participatory planning and progress review with local stakeholders and coordinated by INIAP/PCC and facilitated through the PMC and project planning and progress review workshops. These inputs would be consolidated by INIAP/PC who will consolidate into a draft AWP/B and PPRs. An annual project progress review and planning meeting should be held with the participation of INIAP/PC and the PMC to finalize the AWP/B and PPRs. Subsequently the AWP/B and PPRs will be submitted to the PSC for approval (AWP/B) and Review (PPRs) and to FAO for approval. The AWP/B will be developed in a manner consistent with the project's Results Framework to ensure adequate fulfillment and monitoring of project outputs and outcomes.

Following the approval of the Project, the project's first year AWP/B will be adjusted (either reduced or expanded in time) to synchronize it with an annual reporting calendar. In subsequent years, the AWP/B will follow an annual preparation and reporting cycle as specified in section 4.5.3 below.

4.5.2 Indicators and information sources

To monitor project outputs and outcomes including contributions to global environmental benefits specific indicators have been established in the Results Framework (see Appendix 1). The framework's indicators and means of verification will be applied to monitor both project performance and impact. Following FAO's monitoring procedures and progress reporting formats, data collected will be of sufficient detail to be able to track specific outputs and outcomes and flag project risks early on. Output target indicators will be monitored on a six-monthly basis and outcome target indicators will be monitored on an annual basis, if possible, or as part of the mid-term and final evaluations.

The projects outputs and outcomes indicators have been designed for monitoring the biophysical and socio-economic impacts of the project and progress in the development of capacities for conserving and managing agrobiodiversity at the policy level as well as the development of capacities at the community production level in the relation to their conservation and use of agrobiodiversity systems to ensure food security, preserve cultures and ecosystems and generate economic benefits.

On-the-ground impact indicators monitor:

a) **The level of adoption of good practices for management of agrobiodiversity *in situ* by farmers, increase in income and amount of hectare covered:** amount of hectare covered and the number of farmers incorporating management of agrobiodiversity *in situ*; number of ha accredited for being under biodiversity-based management; increase in family income by increasing the value-added of products derived from agrobiodiversity and other economic activities linked to it; increased in the sales of diversity-based agricultural products at the local market fairs; increase in

the standard of living for families that incorporate agrobiodiversity best practices. The baselines and targets for these indicators are described in the project's Results Framework (appendix 1) and will be adjusted at the beginning of the project. Systematic monitoring will be carried out with the active participation of local farmers' and indigenous' organizations.

b) **Increase in biodiversity in farmer's fields, research centers and markets:** increase of agrobiodiversity in farmers' fields; expansion of diversity coverage in the germplasm bank. The baselines and targets for these indicators are described in the project's Results Framework and will be adjusted at the beginning of the project if needed.

Process indicators of capacity development will address:

c) **Level of incorporation of agrobiodiversity conservation and management in legal instruments and planning:** incorporation of measures for the conservation and sustainable use of agrobiodiversity in public policies and national plans; progress in the implementation at the national level of the International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA); the incorporation of measures for the conservation and sustainable use of agrobiodiversity in provincial policies and development and land use plans.

d) **The level of social awareness on the importance and values of agrobiodiversity:** number of decision-makers of governmental bodies informed about and aware of the ecological, nutritional, cultural and economic value of agrobiodiversity; number of educational centers educating and raising awareness about the importance and use of agrobiodiversity in the local diets; level of recognition of the value of local agrobiodiversity by urban and rural population.

The main sources of information to support the program of monitoring and evaluation will be: (i) participatory workshops and visits to the farmer's plots, agroecological fairs, seed fairs, bio-knowledge and agriculture development centers, seed banks, and other, to collect data on the progress; (ii) agrobiodiversity, and socioeconomic surveys of intervention areas and beneficiaries; (iii) progress reports drafts prepared by the INIAP/PC with contributions from all the actors of the project; (iv) consultancy reports; (v) evaluations of the training workshops; (vi) impact studies and the mid-term review and the final evaluation conducted by independent consultants; (vii) Financial reports and review of the budget; (viii) PIR prepared by FAO LTO with support of the FAO PTM, the PMC and the INIAP/PC; and (ix) FAO supervision mission reports.

4.5.3 Reporting schedule

Specific reports that will be prepared under the M&E program are: (i) Project inception report; Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing Reports; and (vii) Terminal Report. In addition, assessment of the GEF Biodiversity Tracking Tools (METTs) against the baseline (completed during project preparation) will be required at the midterm review and the final project evaluation.

Project Inception Report. After FAO approval of the Project an inception workshop will be held. Immediately after the workshop, INAP/PC will prepare a project inception report in consultation with the FAO-Ecuador Project Task Manager, Heifer and other project partners.

The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B, a detailed project monitoring plan based on the monitoring and evaluation plan summery presented in section 4.5.4 below. The draft inception report will be circulated to FAO, PMC and the PSC for review and comments before its finalization, no later than three months after project start-up. The report should be cleared by the FAO BH, LTO and the FAO-GEF Coordination Unit and uploaded in FPMIS.

Annual Work Plan and Budget (AWP/B). INIAP/PC will submit to the PMC a draft AWP/B no later than 10 January. The AWP/B should include detailed activities to be implemented by project outputs and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The FAO PTM circulate the draft AWP/B the FAO Project Task Force for comments and the PTM consolidates FAO comments and send them to INIAP/PC who will incorporate PMC comments. The final version of the AWP/B is send to the PSC for approval and to the FAO for final no-objection and upload in FPMIS by the PTM.

Project Progress Reports (PPR): INIAP/PC will prepare six-monthly PPRs and submit them to the PMC and the FAO Representation in Ecuador no later than 15 July (covering the period January through June) and 15 January (covering the period July through December). The 1st semester six months report should be accompanied by the updated AWP/B, for review and no-objection by FAO. The PPR are used to identify constraints, problems or bottlenecks that impede timely implementation of project activities and take appropriate remedial action. PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the project's Results Framework (Appendix 1). The FAO PTM will review the progress reports and collect and consolidates eventual FAO comments from the LTO, the GEF Coordination Unit, and the Budget Holder and provide these comments to INIAP/PC. When comments have been duly incorporated the LTO will give final approval and submit the final PPR to the FAO-GEF coordination Unit for final clearance and upload in FPMIS.

Annual Project Implementation Review (PIR): The LTO supported by, the FAO PTM and with inputs from the INIAP/PC, will prepare an annual PIR covering the period July (the previous year) through June (current year) to be submitted to the GEF Coordination Unit for review and approval no later than 31 July. The FAO-GEF Coordination unit will upload the final report on FAO FPMIS and submit it to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. The FAO Representation in Ecuador will send the final PIR to the GEF Focal Point of the Government of Ecuador for information. The GEF Coordination Unit will provide the updated format when the first PIR is due.

Technical Reports: Technical reports will be prepared as part of project outputs and to document and share project outcomes and lessons learned. The drafts of any technical reports must be submitted by INIAP/PC to the PMC and to the FAO Representation in Ecuador who will share it with the LTO for review and clearance and the FAO-GEF Coordination Unit for information and eventual comments, prior to finalization and publication. Copies of the

technical reports will be distributed to the PSC and other project partners as appropriate. The final reports will be posted on the FAO FPMIS by the LTO.

Co-financing Reports: INIAP/PC will be responsible for collecting the required information and reporting on in-kind and cash co-financing provided by all co-financing partners included in table 4.3 of this project document as well as other partners not foreseen in the Project Document. Each year INIAP/PC will submit the report to the FAO Representation in Ecuador before 15 July covering the period July (the previous year) through June (current year).

GEF-5 Tracking Tools: Following the GEF policies and procedures, the tracking tool for the biodiversity focal area will be submitted at three moments: (i) with the project document at CEO endorsement; (ii) at the project's mid-term review; and (iii) with the project's final evaluation or final completion report

Terminal Report: Within two months before the end date of the project INIAP/PC will submit to the PMC and the FAO Representation in Ecuador a draft Terminal Report. The main purpose of the final report is to give guidance at ministerial or senior government level on the policy decisions required for the follow-up of the Project, and to provide the donor with information on how the fund were utilized. The terminal report is accordingly a concise account of the **main products, results, conclusions and recommendations** of the Project, without unnecessary background, narrative or technical details. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for insuring sustainability of project results. Work is assessed, lessons learned are summarized, and recommendations are expressed in terms of their application to the future development of agrobiodiversity conservation and in the context of the national development priorities at national and provincial levels, as well as in terms of practical application. This report will specifically include the findings of the final evaluation as described in section 4.6 below. A final project review meeting should be held to discuss the draft terminal report with the Project Steering Committee before it is finalized by INIAP/PC and approved by the FAO OTL, and the FAO-GEF Coordination Unit.

4.5.4 Monitoring and evaluation plan summary

Table 4.4 presents a summary of the main M&E activities, reports, responsible parties and timeframe.

Table 4.4 Summary of the main activities of monitoring and evaluation

Type of M&E Activity	Responsible Parties	Time –frame	Budget costs
Inception Workshop	INIAP/PC; FAO (PTM with support from LTO BH & FAO-GEF coordination unit)	Two months after the beginning of the project.	USD 3 000
Project Inception Report	INIAP/PC, FAO, PSC approved by LTO, BH & FAO-GEF coordination unit.	Immediately after the inception workshop	-
Field based impact monitoring	INIAP/PC; Farmers and indigenous organisations participating in the project	Continually	USD 36 960 (10% of the time of the project coordinator, technical workshops on the identification of indicators, monitoring and fallow up workshops)

Type of M&E Activity	Responsible Parties	Time –frame	Budget costs
Supervision visits and rating of progress in PPRs and PIR	INIAP/PC; FAO (PTM, LTO and FAO-GEF coordination unit)	Annual or as required	The visits of the FAO LTU/LTO and the GEF Coordination Unit will be paid by GEF agency fee. The visits of the INIAP/PC and other PC members (not including FAO) will be paid from the project travel budget and their co-financing
Project Progress Report	INIAP/PC, with contributions from Heifer and other institutions participating in project execution	Six-monthly	USD 8 230 (5% of the time of the project coordinator)
Project Implementation Review Report	FAO (LTO and PTM) with the support from INIAP/PC and Heifer, and cleared and submitted by the GEF Coordination Unit to the GEF Secretariat	Annually	Paid by GEF Agency fee
Technical Reports	INIAP/PC; FAO (LTO and PTM)	As appropriate	-
Co-financing Reports	INIAP/PC and Heifer with inputs from other co-financing partners	Annually	USD 1 800 (2% of the time of the project coordinator)
Mid-Term Review	External Independent Consultant, in consultation with the project team including the GEF Coordination Unit and other partners	At mid-point of project implementation	USD 15 000 for external consultant. In addition, either FAO staff time and travel or an additional consultant will be paid through the agency fee
Final Evaluation	External Consultant, FAO independent evaluation office in consultation with the project team and other partners	At the end of project implementation	USD 30 000 for external consultant. In addition, either FAO staff time and travel or an additional consultant will be paid through the agency fee
Terminal Report	INIAP/PC; FAO (PTM, LTO FAO-GEF Coordination Unit, TSCR report unit)	At least two months before the end of the project	-
Total Budget			**USD 94 990**

4.6 PROVISION FOR EVALUATIONS

An independent Mid-Term Review (MTR) will be undertaken towards the end of the 18th month of project execution conducted by an independent consultant but without the participation of the FAO Evaluation office. The objective of the MTR is to review progress and effectiveness of implementation in terms of achieving project objective, outcomes and outputs. Findings and recommendations of this review will be shared and discussed in a midterm review workshop and will be instrumental for bringing improvement in the overall project design and execution strategy for the remaining period of the project's term if necessary. FAO will arrange for the MTR in consultation with INIAP/PC and the PMC. The review will, *inter alia:*

- review the effectiveness, efficiency and timeliness of project implementation;

- analyze effectiveness of partnership arrangements;
- identify issues requiring decisions and remedial actions;
- propose any mid-course corrections and/or adjustments to the implementation strategy as necessary; and
- Highlight technical achievements and lessons learned derived from project design, implementation and management.

An independent Final Evaluation (FE) will be carried out three months prior to the terminal review meeting of the project partners. The FE would aim to identify the project impacts and sustainability of project results and the degree of achievement of long-term results. This Evaluation would also have the purpose of indicating future actions needed to sustain project results, expand on the existing Project in subsequent phases, mainstream and up-scale its products and practices, and disseminate information to management authorities responsible for food security and sovereignty, agrobiodiversity conservation and sustainable use, small farmers agriculture development and agroecosystem conservation, in particular Andean agroecosystems, to assure continuity of the processes initiated by the Project.

Some of the critical elements to be evaluated both in the MTR and the FE will be:

- The degree of participation and representation of women in the processes of planning, training, and implementation of project activities
- The degree to which farmers, indigenous communities and local organizations have accepted and are involved in organic farming and biodiversity-based farming systems and the participatory guarantee system
- The level of understanding and awareness among decision makers and consumers of the values, importance, conservation and sustainable management of agrobiodiversity
- The degree of availability of germplasm, collected by the project, and its related information and knowledge for potential users, inside and outside of Ecuador, for improving the sustainability and resilience of Andean agroecosystems and other arid and mountain agroecosystems in light of climate and environmental changes.
- The increase in family income from agrodiversity production systems through direct marketing, processing and related economic activity.
- The level of incorporation of the conservation and sustainable use of agrobiodiversity in policies, Action Plans, and provincial development and land use plans, and their effective implementation.

4.7 COMMUNICATION OF PROJECT RESULTS AND VISIBILITY

High visibility of the project is included in several project activities as well as mechanisms to ensure that communications of the message of the project are effective. These activities include: (i) the publication of a document for the systemization of all outputs and outcomes of the project; (ii) the publication of promotion materials on the importance of agrobiodiversity aimed at a broad spectrum of audience; (iii) a promotion campaign on the importance of food security and food sovereignty and the benefits of the conservation and sustainable use of agrobiodiversity; (iv) the strengthening of the capacities of local schools and technical colleges in education and raising awareness of the importance and the use of agrobiodiversity in local diets; (v) a program of information and awareness for decision- makers about the ecological, nutritional, cultural and economic values of agrobiodiversity, which will also include dialogs with local and national media; (vi) the establishment of agritourism routes that show and promote the native agrobiodiversity; (vii) the promotion of agrobiodiversity in the

agroecological weekly fairs and annual seed fairs in the cantonal main towns; and (viii) the policy proposals and plans of action for the promotion of the conservation and sustainable management of agrobiodiversity.

In addition, the project will ensure the mechanisms to give maximum publicity to the documentation generated by the project, and in particular the Final Report, technical reports, and the MTR and FE.

SECTION 5 – SUSTAINABILITY OF RESULTS

5.1 SOCIAL SUSTAINABILITY

The social sustainability of project activities will be achieved through a participatory strategy to strengthen the role of local communities and farmers and indigenous organizations in the *in situ* agrobiodiversity conservation and management activities, capacity building and monitoring. In particular, the project will support:

- A gender approach and the respect for indigenous cultures at all stages of decision-making and project activities.
- The active participation and empowerment of indigenous and local communities in the expansion and accreditation of good practices for *in situ* conservation and management of agrobiodiversity and in income generating activities (organic food fairs, small food processing companies, agro-tourism routes).
- The active participation of communities in the process of development of regulations at the provincial level (regulations and DLUP), under the approach of food security and sovereignty.
- The capacity-building of farmers' and indigenous organizations to enhance their administrative and technical capacity.
- The facilitated access to seed and planting materials of traditional varieties adapted to the agro-ecological production areas.

Another factor of social sustainability will be the co-financing contribution of the farmers' organizations UNORCAC, CEPCU, and CEDEIN, which will reinforce the empowerment of the project outputs and outcomes by the communities.

In addition, the project will seek to generate benefits related to the local economy and to food and nutrition security in order to provide incentives and sustainability to the activities on management and sustainable use of agrobiodiversity after the project implementation. These include: significant progress in the implementation of Article 9 of the TIRFAA on Farmer's Rights that facilitate access and benefit-sharing in relation to plant genetic resources; five (5) peasant and indigenous organizations incorporating the management of agrobiodiversity in thousand five hundred (1 500) hectares, increasing the diversity by 40% and the standard of living for women and men (measured through qualitative surveys disaggregated by gender); the average annual income of the 1000 peasant and indigenous participating families has been increased by 15% at the end of the project (measured through questionnaires disaggregated by gender and filled out by all of the participating families at the beginning and at the end of the project) through increased added value of agrobiodiversity products and other economic activities related to agrobiodiversity.

5.2 ENVIRONMENTAL SUSTAINABILITY

This GEF project aims at enhancing the sustainable management and resilience of Andean agro-ecosystems, and therefore all project activities contribute to the environmental sustainability. As mentioned above (see sections 2.5 and 3.1) the project activities have no negative environmental impact but will generate both local and global environmental benefits by promoting organic and diversified production in small farms. This is expected to have a positive impact on the high Andean agro-ecosystems included in the project, through the

reduction of soil degradation and erosion and the increase of resilience to pest and disease stresses and climate changes.

5.3 FINANCIAL AND ECONOMIC SUSTAINABILITY

The main element of financial sustainability is the important contribution of the participating institutions to co-financing outputs and activities, thus ensuring that the project investments will be taken on by the institutions after the end of the project.

Sustainability will be achieved to the extent that the activities are financially viable for stakeholders and communities in the project intervention areas. Examples of financial sustainability include:

- The proposals for policies and regulations made under the project (national policy on agrobiodiversity, proposed extension of the implementation of farmers' rights, provincial ordinances, and Provincial Development and Land use Plans) will be developed and designed in a participatory manner. The participatory processes wil be supported by participating institutions, mainly Heifer and the GADs, who will monitor the processes of discussion, processing and approval of the proposals.
- The collecting missions will be economically sustainable in the context of the long-term and safe conservation of plant germplasm, making possible the access by farmers and breeders to such materials and to their associated knowledge.
- The sustainability of the Bio-knowledge and Agricultural Development Centres (BADCs) and the seed banks established with the support of the project will be ensured as part of the formal collaboration between INIAP, the GADs and farmers' organizations, who will jointly assume their future operation.
- The project will support the self-management of Participatory Guarantee Systems, which will allow their future development and operation without external support, since the whole process of system implementation and accreditation of plots will be self-managed by farmers and indigenous organizations.
- The income-generating activities will be sustainable to the extent that the project will support the development and implementation of micro-enterprise and market fair business plans and training programmes for their implementation. This will enable communities and their organizations to undertake economically viable activities. In many cases, the project will strengthen and expand activities that are already economically viable, such as rural fairs and food processing in community micro-enterprises.

5.4 SUSTAINABILITY OF CAPACITIES DEVELOPED

A key element in the sustainability of the capacities developed through the project, is that farmers and indigenous organizations have been involved in the project design from the beginning. The participation of beneficiaries of training activities in the identification of their own needs ensures that the content is implemented in practice.

Some examples of the sustainability of capacities are:

- The training workshops for farmers on agrobiodiversity *in situ* management and use will be designed based on the needs identified by the beneficiaries themselves organized in associations. This participatory needs assessment will be carried out in collaboration with INIAP and Heifer, both of them with significant expertise in knowledge and technology transfer to farmers in the highlands of Ecuador.

Furthermore, for the selection of beneficiaries of the training activities priority will be given to producers and groups who have demonstrated interest in the issue by joining groups such as organic farmers associations, networks of farmers and rural women's organizations. The content will be primarily practical and the educational materials developed by the project will be adapted to the cultural context of the project areas.

- The training activities for the participation of farmers in the PGS will be based on the technical assistance to each farmer in the choice of species and varieties to be cultivated. The training programmes and the transfer of methodologies for implementing the PGS will always be done in coordination with communities and farmers organizations.
- In training activities on generation of value added (organic agricultural fairs, agribusiness, agro-tourism) the key element will also be the identification of needs by the beneficiaries with the technical assistance of specialists. For training activities related to agro-tourism routes, an important element of sustainability will be the use of the broad experience of UNORCAC in Cotacachi through the agency Runa Tupari in the development of tourist capacities of other local organizations for the provision of rural tourism services.
- The sustainability of training activities for school teachers will be ensured by including agrobiodiversity in the schools curricula with the implementation of the *Methodological Guidelines for education in the values of agrobiodiversity*.

5.5 APPROPRIATENESS OF INTRODUCED TECHNOLOGIES

The project outcomes and outputs include technology transfer to farmers, but the purpose is not to introduce a technology package as such, but to integrate and adapt the approach of agrobiodiversity conservation and management and organic farming with traditional agricultural practices and knowledge. This strategy is respectful of traditional cultural practices, adapted to the ecological conditions of the farms, and beneficial for the conservation of ecosystems. In this sense, both the BADCs supported by the project and the training activities on organic agriculture and crop diversification, seek a balanced combination between tradition and development, both in the species and varieties and in the agricultural practices that will be promoted.

5.6 REPLICABILITY AND SCALING UP

The project is based on a set of existing but dispersed experiences and initiatives in the Andean region and seeks their replication and scaling up through the integration and institutionalization of best practices and approaches. Thus, the project will replicate approaches and practices that have proven successful beforehand. Other project elements that will support the possibility of replication and scaling up are: (i) the selection of four highland areas representing different cultural contexts and ecological environments with a high potential for replication in other regions of Ecuador and other countries; (ii) a set of practices of study, conservation, promotion and education on agrobiodiversity with high potential for replication in other areas of the country given the importance of small-scale agriculture in Ecuador; and (iii) the development of provincial oridances/regulations and the integration of agrobiodiversity in three provincial Development and Land Use Plans through a participatory methodology, which provides a framework to facilitate the expansion of good practices in these provinces that can also be replicated easily in other provinces.

APPENDIX

APPENDIX 1: RESULTS MATRIX

Project outcomes and impacts:

Objective/Impact	Baseline	Outcome indicators	Assumptions
Global Environmental Objective: To integrate the use and conservation (*ex situ* and *in situ*) of agrobiodiversity in policies, farming systems and education and awareness programs of Ecuadorian highland provinces of Loja, Chimborazo, Pichincha and Imbabura with the aim to contribute to the sustainable management and resilience of agro-ecosystems in the Andean and other similar mountain dry-land regions. Project Development Objective: To integrate the use and conservation (*ex situ* and *in situ*) of agrobiodiversity in the Ecuadorian highland provinces of Loja, Chimborazo, Pichincha and Imbabura with the aim of increasing and improving the provision of goods and services from agriculture, contributing to food security, and reducing rural poverty.	Component 1: There is no specific national legislation on the use and conservation of agrobiodiversity and its related knowledge. The Development and Land Use Plans (DLUP) developed by provincial governments do not include specific provisions on the use and conservation of agrobiodiversity, with the exception of the Provincial Government of Pichincha. The implementation of Farmers' Rights as defined in the International Treaty, ratified by Ecuador in 2004, is insufficient, thus missing an opportunity to promote the *in situ* management of agrobiodiversity.	Component 1: 1.1 Public policies and plans incorporate measures for the conservation and sustainable use of agrobiodiversity. Target: One (1) policy, one (1) action plan and three (3) related instruments developed and under initial implementation. 1.2 Progress in the implementation at national level of the International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA), which facilitates access and benefit sharing of genetic resources. Target: Article 9 of IT-PGRFA on Farmers' Rights under implementation. 1.3 Land managed under GAD's Development and Land Use Plans (DLUP) and regulations integrate the value, sustainable use and conservation of agrobiodiversity. Target: Three (3) DLUP and three (3) GAD regulations in Loja, Chimborazo and Imbabura managing 9,000 hectares.	Component 1: • Local authorities of GADs to be elected in 2014 take responsibility of the framework agreements for the integration of agrobiodiversity in DLUPs.
	Component 2: The INIAP National Genebank holds collections of important crops for food security in the project areas. It is necessary to expand these collections with species and varieties useful for farmers and with traits of resistance to stress factors in the Andean region and similar areas. INIAP and farmers' organizations	Component 2: 2.1 The coverage of Andean diversity at the National Genebank has been increased taking into account abiotic and biotic stress factors, important to overcome future climate challenges, and the exchange of materials between the Genebank and farmers have been strengthened. Target: (210 accesiones colectadas), new material of fifteen (15)important crops to respond to stress factors in the Andean region and similar systems accessible to local farmers	Component 2: • Active participation of all project stakeholders (local governments, civil society organizations, universities) • Interest of producers in adopting standards of biodiversity-based farming. • Interest in developing agro-tourism activities. • Consumers' appreciation of

	do not have formal agreements to support and strengthen complementary conservation. INIAP has developed participatory methodologies in support of the conservation and sustainable use of agro- biodiversity (farmers training, local inventories and community registers of agrobiodiversity, Bio-knowledge and Agricultural Development Centres, support to local seed fairs). 400 hectares of crop land in the project intervention areas are cultivated under organic production and follow good practices of agrobiodiversity conservation, but without implementation of participatory guarantee systems. Heifer has years of experience in the formulation and implementation of participatory guarantee systems as mechanisms of trust between producers and consumers of organic agricultural products. In the project areas there are no farms certified under criteria of good practices of agrobiodiversity conservation.	and research centres in Ecuador and other countries. 2.2 Farmers and indigenous organizations have incorporated the sustainable use and management of agrobiodiversity in agricultural systems, thus increasing agrobiodiversity in the farms and the living standards of rural families. Target: Five (5) organizations incorporating the management of agrobiodiversity in fifteen hundred (1,500) hectares, increasing the diversity by 40% and the living standards (measured through qualitative surveys disaggregated by gender). 2.3 Productive lands under Participatory Guarantee Systems ensuring the cultivation under good practices of *in situ* management of agrobiodiversity, supported and sustained by local networks of indigenous small and medium farmers and producers. Target: Nineteen hundred (1,900) hectares of productive land (representing 7% of the agricultural area of the cantons covered by the project) under PGS with the support of five (5) local networks. 2.4 Family income raised by the increase of aggregated value of products derived from agrobiodiversity and other economic activities related to it. Target: annual income from crop production of 1000 participating families increase by 15% at the end of the project (measured through qualitative surveys of all participating families disaggregated by gender at the beginning and end of the project).	products from biodiversity-based farming systems. • Political stability in local governments. • Favourable climatic conditions for the implementation of farmers' fields.
	<u>Component 3:</u> Decision makers at governmental and local/provincial levels are not sufficiently aware on the values of agrobiodiversity and on the urgent need to undertake actions for its	<u>Component 3:</u> 3.1 Governmental decision-makers are informed and aware of the ecological, nutritional, cultural, and economic values of agrobiodiversity. Target: 60 government decision-makers (at	<u>Component 3:</u> • Decision makers are receptive to awareness campaigns. • The beneficiary educational communities actively participate

	conservation and sustainable utilization. The initiatives on formal and informal education on organic farming and agrobiodiversity are scarce and isolated. Consumers are not aware of the values of local agrobiodiversity.	least 40% women) of four (4) governmental agencies (National Assembly, MAGAP, Ministry of Education and MIES) are informed and aware. 3.2 Strengthened capacities of local and technical schools for providing education and awareness raising in the importance and use of local agrobiodiversity in local diets. Target: Thirty (30) schools educating and creating awareness to two thousand (2,000) students. 3.3 Urban and rural population of the intervention areas recognizes the value of local agrobiodiversity and consume products derived from it. Target: 28.5% increase in the sales of 7 local market fairs of agro-diversity derivatives products (achieved jointly with outcomes 2.3 and 2.4).	in the capacity-building activities. • The actions aimed at creating consumer awareness have significant impacts.

Project Outputs and Outcomes:

Indicators	Base line (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of Verification	Responsable for Data Collection
Component 1: Integrating the sustainable use and conservation of agrobiodiversity in public policies and their implementation							
<u>Outcome 1.1</u> *Public policies and plans incorporate measures for the conservation and sustainable use of agro-biodiversity* .	At the national level there is no secondary legislation on agrobiodiversity. The current legislation is not specific, and institutional responsibilities are not defined.	One (1) policy, one (1) action plan and three (3) related instruments under implementation.	Plan of Action (1) implemented and validated	Policy (1) and related instruments developed and under initial implementation.	Policy (1), plan of action (1) and related instruments(3) developed and under initial implementation	Plan of Action of the agro-biodiversity component of the NBS. Proposal for a national public policy addressing the conservation and the sustainable use of biodiversity. Proposal for related instruments. Mid-term and final Evaluation.	Public Policy specialist in agrobiodivesity INIAP Heifer

Indicators	Base line (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of Verification	Responsable for Data Collection
Output 1.1.1 National Action Plan for the implementation of the agro-biodiversity component of the National Biodiversity Strategy, including provisions for monitoring its progress	The MAE is developing a new National Biodiversity Strategy in fulfilment of Aichi goals. The development of the Plan of Action for the implementation of agro-biodiversity component of the Strategy is planned by 2014.	One (1) Action Plan developed	Plan of Action for the implementation of the agro-biodiversity component of the NBS developed. Members of the inter-institutional working group on agro-biodiversity identified.	Inter-institutional working group on agro-biodiversity established, and meets every two months.	Meetings, every two months, of the inter-institutional working group on agro-biodiversity	Methodology, lists of participants, proceedings of the consultation workshops. National Biodiversity Strategy Document (2013). Plan of Action of the agro-biodiversity component of the NBS. Minutes of the inter-institutional working group on agro-biodiversity meetings	Public policy specialist INIAP-MAGAP Heifer
Output 1.1.2 Mechanism for the coordination and strategic partnerships among INIAP, MAGAP, MAE, SENPLADES and Decentralized Autonomous Governments on policies for the promotion and conservation of agro-biodiversity	The current legislation on agro-biodiversity does not clearly define responsibilities and coordination mechanisms between the institutions involved: MAE, MAGAP, INIAP, GAD, SENPLADES.	One (1) Coordination Mechanism established and operational	Establishment of the coordination mechanism, through quarterly meetings.	Quarterly meetings of the coordination mechanism	Quarterly meetings of the coordination mechanism	Minutes of the coordination mechanism meetings	INIAP-MAGAP

Indicators	Base line (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of Verification	Responsable for Data Collection
Output 1.1.3 Proposal for national public policy addressing the conservation and utilization of agro-biodiversity	There is no specific secondary legislation focused on the conservation and sustainable use of agro-biodiversity defining institutional responsibilities, incentives, sanctions, and others.	One (1) proposal developed and validated	Draft proposal for national policy on conservation and utilization of agro-biodiversity	Proposal developed and validated, Presentation of the proposal in various fora (National Assembly, MAGAP, COPISA, public events, discussion for a, and others as appropriate)		Proposal for national public policy addressing the conservation and sustainable utilization of agro-biodiversity Proceedings of the validation workshops	Specialist on public policies on agro-biodiversity Heifer
Output 1.1.4 Methodology for the assessment of diversity in traditional biodiversity-based farming systems and its role in food security and rural livelihood, to underpin public policies on agro-biodiversity	There is no baseline information obtained through comprehensive research on the contribution of biodiversity-based farming systems that can be used as justification to support a public policy in this area.	One methodology developed and validated in the province of Chimborazo	Methodology developed, with indicators on quantitative and qualitative information: agricultural, socio-economic, food security. Methodology validated through a field study.	Set of indicators compiled and presented to decision makers, international cooperation agencies. Methodology presented in universities, post-graduate study centres, and relevant institutions.		Methodology of assessment Field study to validate methodology	INIAP-Heifer

Indicators	Base line (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of Verification	Responsable for Data Collection
Outcome 1.2 Progress in the implementation at national level of the International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA), which facilitates access and benefit sharing of genetic resources	The implementation of Farmers' Rights (FR) in the country is inadequate, since the competent governmental bodies are not developing specific strategic or legal measures for their implementation. Farmers and civil society demand progress in the implementation of the FR.	Article 9 of IT-PGRFA on Farmers' Rights under implementation			Article 9 of IT-PGRFA on Farmers' Rights under implementation	Study paper on mechanisms for the implementation of FR in Ecuador Draft program for the implementation of FR Minutes of the Committee meetings Workshop reports, proceedings Communication products Mid-term and final evaluation	Specialist on public policies on agro-biodiversity Heifer
Output 1.2.1 Analysis of the implementation of Farmers' Rights in Ecuador, identification of options to expand this implementation, and proposal of programme for the implementation of Farmers' Rights by relevant governmental authorities	Farmers' Rights, as defined in the IT-PGRFA, are not integrated in the Ecuadorian legislation, programs or action plans of governmental institutions.	One study and one proposal developed	Study on the implementation of FR in Ecuador	Draft program developed, consistent with the current legislation.	Monitoring the adoption process of the proposal in MAGAP and subsequently in the Ministry of Production Coordination and SENPLADES	Study paper on mechanisms for the implementation of FR in Ecuador Draft program for the implementation of FR by relevant governmental institutions	Specialist on public policies on agro-biodiversity Heifer

Indicators	Base line (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of Verification	Responsable for Data Collection
Output 1.2.2 Information campaign on Farmers' Rights in consistency with the IT-PGRFA addressed to farmers and indigenous organizations	A study published by INIAP on the implementation of the IT-PGRFA in Ecuador, as well as the results of the national consultation workshops in 2012 show that farmers are unaware of the DA and call for more information and participation.	One campaign implemented	A participatory inter-institutional Committee on FR established 3 meetings of the committee	Quarterly meetings of the Committee 7 dissemination workshops of FR	4 meetings of the Committee One radio campaign and 15,000 information brochures on FR delivered	Minutes of the Committee meetings Workshop reports, proceedings Communication products	Heifer
Outcome 1.3 Land managed under GAD's Development and Land Use Plans (DLUP) and regulations integrate the value, sustainable use and conservation of agro-biodiversity	The provincial GAD of Loja, Chimborazo and Imbabura have not developed specific legislative measures for the sustainable use and conservation of agro-biodiversity. This fact threatens the conservation of agro- biodiversity at the local level and hampers the development of diversified farming systems.	Three (3) DLUP and three (3) GAD regulations in Loja, Chimborazo and Imbabura managing 9,000 hectares			Three DLUPs developed with criteria for agrobiodiversity, and three (3) regulations for the sustainable use of agrobiodiversity in the GADs of Loja, Chimborazo and Imbabura, covering 9,000 hectares	Proposals for provincial regulations presented to Loja, Chimborazo and Imbabura GADs. DLUP developed with text on conservation and use of agro-biodiversity. Mid-term and final evaluation	Heifer
Output 1.3.1 Proposals for provincial regulations on conservation and sustainable use of agro-biodiversity	The provincial GAD of Loja, Chimborazo and Imbabura have not developed specific legislative measures for the sustainable use and conservation of agro-biodiversity.	Three (3) proposals formulated in Loja, Chimborazo and Imbabura	Plan of work with GAD established. 12 workshops (4 per province) at canton level	3 workshops (1 per province) at regional level	Proposals presented to GAD Follow-up of the proposals approval process	Plan of work with GAD Workshop reports Proposals for provincial regulations presented to Loja, Chimborazo and Imbabura GADs.	Heifer

Indicators	Base line (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of Verification	Responsable for Data Collection
Output 1.3.2 Provincial Development and Land Use Plans integrating the value, sustainable use and conservation of agro-biodiversity	DLUP in Loja, Chimborazo and Imbabura are the planning instrument of provincial GAD. The lack of specific provisions on the use and conservation of agro-biodiversity hampers the integration of this subject in development plans, projects and activities.	Three (3) DLUP (Loja, Chimborazo and Imbabura) integrating the conservation and use of agro-biodiversity	Plan of work with GAD established. 12 workshops (4 per province) at canton level (same as output 1.3.1) 3 provincial workshops (Loja, Imbabura and Chimborazo) with GAD officials.	3 workshops (1 per province) at regional level (same as output 1.3.1) 3 provincial workshops (Loja, Imbabura and Chimborazo) with GAD officials.	Proposals presented to GAD 3 provincial workshops (Loja, Imbabura and Chimborazo) with GAD officials.	Workshop reports Proposals for provincial DLUP	Heifer

Indicators	Baseline (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of verification	Responsible for Data Collection
Component 2: Scaling up of good practices in the *in situ* and *ex situ* conservation and sustainable use of agrobiodiversity							
<u>Outcome 2.1</u> The coverage of Andean diversity at the National Genebank has been increased taking into account abiotic and biotic stress factors, important to overcome future climate challenges, and the exchange of materials between the Genebank and farmers has been strengthened	The INIAP National Genebank holds collections of important crops for the food security in the project areas. It is necessary to expand these collections with species and varieties useful for farmers and with traits of resistance to stress factors in the Andean region and similar areas. INIAP and farmers' organizations do not have formal agreements to support and strengthen complementary conservation.	New material of fifteen (15) crops important to respond to stress factors in the Andean region and similar systems accessible to local farmers and research centres in Ecuador and other countries	210 new accessions in the National Genebank collected and characterized 5 collaboration agreements between INIAP and local organizations	240 new accessions in the National Genebank collected and characterized		Passport and characterization data Agreements signed with farmers' and indigenous organizations	INIAP Technical area coordinators
<u>Output 2.1.1</u> Crop collections, including of under-utilized species, with relevant traits of resistance to stress established or expanded through collecting expeditions	The INIAP Genebank holds important collections of food security species which is still necessary to expand in order to complete and improve the representativeness of agrobiodiversity in the project intervention areas.	Collections of fifteen (15) crops established or expanded, and their characteristics identified	4 collecting missions 210 accessions collected 210 accessions characterized (morphological and molecular characterization)	5 collecting missions 240 accessions collected 240 accessions characterized (morphological and molecular characterization)		Passport data Photo documentation Field notes Databases for morphological and molecular characterization	INIAP Technical area coordinators Assistant technicians on plant genetic resources

Indicators	Baseline (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of verification	Responsible for Data Collection
Output 2.1.2 Collaboration agreements on agrobiodiversity between five farmers'/indigenous organizations, INIAP and other partners, including actions for *ex situ* conservation and *in situ* management, and with participatory and gender-sensitive approaches	Lack of coordination between farmers' organizations and INIAP. Unawareness of genebank functions. Insufficient complementary conservation.	Five (5) agreements signed with local organizations UNORCAC, CEPCU, La Esperanza Water Board, Corpopuruhua and UCOCP.	5 agreements signed	Follow-up of agreements	Follow-up of agreements	Workshop reports Collaboration agreements Annual evaluation reports	INIAP Technical area coordinators
Outcome 2.2 Farmers and indigenous organizations incorporate the sustainable use and management of agrobiodiversity in agricultural systems, thus increasing agrobiodiversity in the farms and the living standards of rural families	INIAP has developed participatory methodologies in support of the conservation and sustainable use of agro- biodiversity (farmers training, local inventories and community registers of agrobiodiversity, Bio-knowledge and Agricultural Development Centres, support to local seed fairs). 400 hectares of crop land in the project intervention areas are cultivated under organic production and follow good practices of agrobiodiversity conservation.	Five (5) organizations incorporating the management of agrobiodiversity in fifteen hundred (1,500) hectares, increasing the diversity by 40% and the living standards (measured through qualitative surveys).	1,000 families incorporating the sustainable use and management of agrobiodiversity in agricultural systems	1,000 families incorporating the sustainable use and management of agrobiodiversity in agricultural systems	1,000 families incorporating the sustainable use and management of agrobiodiversity in agricultural systems	Lists of participating families Lists of participants to training workshops Certificates of delivery of agricultural inputs	Technical area coordinators Field area assistants
Output 2.2.1 Rural families trained on *in situ* management and utilization of agrobiodiversity, based on the needs identified in the farming systems	INIAP has experience in farmers training in the provinces of Loja, Chimborazo and Imbabura. A training methodology on agrobiodiversity management is available.	3,000 families (30% of which are led by women) managing approximately 1,500 hectares are trained in the project intervention areas of four provinces (Imbabura, Pichincha, Chimborazo and Loja)	Farmers of 1,000 families in 4 provinces trained	Farmers of 1,000 families in 4 provinces trained	Farmers of 1,000 families in 4 provinces trained	Lists of trainees Training materials Training workshops reports	INIAP Technical area coordinators

Indicators	Baseline (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of verification	Responsible for Data Collection
Output 2.2.2 Local inventories of agrobiodiversity and its related traditional knowledge, and community registers of crop diversity in family farms developed through a participatory research	One local inventory of agrobiodiversity developed in the communities of Cotacachi, and one catalogue of agrobiodiversity published.	Three (3) inventories in Chimborazo, Loja and Otavalo-La Esperanza developed, and five hundred (500) community registers established in four provinces (Imbabura, Pichincha, Chimborazo and Loja)	One inventory of agrobiodiversity developed in the communities of Otavalo (Imbabura) and La Esperanza (Pichincha). Three agrobiodiversity community register systems implemented in the four provinces.	Two inventories of agrobiodiversity developed in the communities of Chimborazo and Loja. Follow-up to community registers.	Three agrobiodiversity catalogues published based on inventories and registers. Compilation of agrobiodiversity community registers.	Workshop reports, including a methodology for inventories and community registers, and participatory tools for development of inventories. Agrobiodiversity catalogues Report on community registers	Specialist on local inventories and community registers of agrobiodiversity. Field area assistants. INIAP
Output 2.2.3 Local seed fairs formalized	One seed exchange fair formalized in Cotacachi. Not formalized seed fairs in La Esperanza, Guamote and Paltas	Three (3) seed fairs formalized in La Esperanza, Guamote and Paltas	Three seed exchange fairs implemented.	Three seed exchange fairs implemented.	Three seed exchange fairs formalized and implemented by local farmers' organizations, local governments and other stakeholders.	Lists of participants. Seed registers. Farmers' registers. Agreements with GAD for the formalization of seed fairs.	Technical area coordinators Heifer

Indicators	Baseline (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of verification	Responsible for Data Collection
Output 2.2.4 Bio-knowledge Centres and community seed banks established or strengthened to multiply and restore local representative species in the farms	INlAP has established a Bio-knowledge and Agricultural Development Centre in Chimborazo, and three other BADC are in the initial stages of implementation in Paltas, Saraguro and Guamote. In La Esperanza there is a community seed bank in an early stage, with deficiencies in knowledge on conservation, seed management, organizational structure, internal regulations and equipment.	(i) Six (6) BADC established and operational in Guamote, Paltas, Saraguro, Cotacachi, Ibarra and Riobamba, (ii) one (1) community bank established in Colta, (iii) one (1) community bank strengthened in La Esperanza, and (iv) twenty local representative species multiplied and restored in farmers' fields.	3 BADC operative in Riobamba, Guamote and Cotacachi. One community seed bank strengthened in La Esperanza	3 BADC operative in Paltas, Saraguro and Ibarra. One community seed bank established in Colta	20 local crop species restored in farmers' fields.	Bio-knowledge centres and community seed banks. Contracts and agreements. Certificates of delivery of seed and other restored materials	Technical area coordinators Field area assistants INIAP
Outcome 2.3 Productive lands under Participatory Guarantee Systems ensuring the cultivation under good practices of *in situ* management of agrobiodiversity, supported and sustained by local networks of indigenous small and medium farmers and producers	Heifer has years of experience in the formulation and implementation of participatory guarantee systems as mechanisms of trust between producers and consumers of organic agricultural products. In the project areas there are no farms certified under criteria of good practices of agrobiodiversity conservation. There are 400 ha of land under organic production by smallholders without accreditation.	Nineteen hundred (1,900) hectares of productive land (representing 7% of the agricultural area of the cantons covered by the project) under PGS with the support of five (5) local networks	400 ha of land certified under standards of good practices of agrobiodiversity conservation: 150 ha in Cotacachi, 10 ha in Otavalo, 40 ha in La Esperanza, 100 ha in Guamote and Colta, 100 ha in Paltas.	750 ha of land certified under standards of good practices of agrobiodiversity conservation: 150 ha in Cotacachi, 37.5 ha in Otavalo, 75 ha in La Esperanza, 300 ha in Guamote and Colta, 37.5 ha in Saraguro 150 ha in Paltas.	750 ha of land certified under standards of good practices of agrobiodiversity conservation: 150 ha in Cotacachi, 37.5 ha in Otavalo, 75 ha in La Esperanza, 300 ha in Guamote and Colta, 37.5 ha in Saraguro 150 ha in Paltas. One proposal of national quality label for products from biodiversity-based farming systems	Lists of producers managing farms certified under good practices of agrobiodiversity conservation	Technical area coordinators Heifer/MAGAP

Indicators	Baseline (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of verification	Responsible for Data Collection
Output 2.3.1 Standards of good practices of *in situ* management of agrobiodiversity, and Participatory Guarantee Systems issuing distinctive labels for the implementation of good practices, managed by local farmers' networks and indigenous organizations	There are no farms certified for their biodiversity-based production	Three (3) Participatory Guarantee Systems developed with defined standards, in the provinces of Imbabura, Pichincha, Chimborazo and Loja	Standards validated and established in the three project areas: (i) Imbabura-Pichincha, (ii) Chimborazo and (iii) Loja. Three Participatory Guarantee Systems established in the farmers' organizations in each project area			Standards. Evaluation reports of the Participatory Guarantee Systems	Technical area coordinators Field area assistants Heifer/MAGAP
Output 2.3.2 Smallholders trained and producing under Participatory Guarantee Systems of organic and biodiversity-based farming practices, some of which sell their products	800 smallholders trained on organic farming in the four provinces covered by the project	3,800 households (of which at least 30% are led by women) trained, of which 800 sell their products with under local Participatory Guarantee Systems	1,250 households trained and producing under PGS: 350 in Imbabura, 120 in Pichincha, 470 in Chimborazo, 310 in Loja.	1,250 households trained and producing under PGS: 350 in Imbabura, 120 in Pichincha, 470 in Chimborazo, 310 in Loja.	1,300 households trained and producing under PGS: 370 in Imbabura, 140 in Pichincha, 460 in Chimborazo, 330 in Loja.	Lists of trainees Training workshop reports Training materials Cooperation agreements for technical support and training	Technical area coordinators Field area assistants Heifer/MAGAP
Output 2.3.3 Proposal of quality label at national level for products from biodiversity-based farming systems, based on the experiences of local guarantee systems	It does not exist any quality label identifying products from biodiversity-based farms	One (1) proposal of quality label based on the local guarantee systems developed and validated			One (1) proposal of quality label developed	Proposal of quality label	Specialist on guarantee systems of organic and biodiversity-based farming Heifer/MAGAP

Indicators	Baseline (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of verification	Responsible for Data Collection
Outcome 2.4 Increased family income by increasing the added value of products derived from the agrobiodiversity and other economic activities related to agrobiodiversity.	To be established using questionnaires desegregated by gender to be completed by families participating in the activities of the outputs related to this outcome at the beginning of each activity	The average annual income from crop production of the 1000 participating families will be increased by 15% at the end of the project (measured through questionnaires filled out by all the participating families at the beginning and the end of the project and disaggregated by gender).		5% increase over the baseline	15% increase over the baseline	questionnaires desegregated by gender to be completed by families participating at the beginning and at the end of the project MTR and FE	Heifer
Output 2.4.1 Local weekly market fairs strengthened.	The 7 weekly organic fairs in the 4 provinces of the Project need improve their consumer services. There are at least 450 producers in the 4 provinces without access to the consumers through direct commercialization channels.	Seven fairs strengthened in Catacocha, Saraguro, Colta, Hope, Avocados, Guamote, Otavalo and Cotacachi	Business Plan for 7 fairs in 4 provinces New commercial and cooperate images of the 7 fairs 7 fairs with new equipment for the service of the customers. 3 capacity building workshops in post harvest handling and commercialization of agrobiodiversity-based products	3 capacity building workshops in post harvest handling and commercialization of agrobiodiversity-based products	3 capacity building workshops in post harvest handling and commercialization of agrobiodiversity-based products	Business Plan Documents on the cooperate and commercial image Workshop reports with list of participants	Area technical coordinators. Agrobusiness specialist, specialist in post harvest processing of agroecological products Heifer/MAGAP

Indicators	Baseline (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of verification	Responsible for Data Collection
Output 2.4.2 Community micro enterprises generate new products increasing the use of the agrobiodiversity from the farms of participating families.	The community microenterprises in the project intervention area adding value to the agrobiodiversity-based products are selling their products locally but they need improvement in processing technologies and infreastructure in order to strengthen their productivity and incorporate new biodiversity-base products	Four community micro enterprises, generating 10 new products	Market study for agrobiodiveristy-based products from four enterprises. Business plans elaborated.	Improved physical infrastructure of the processing plants. Sanitary registry obtained for the new products	Producers associated to (4) microenterprises trained en good manufacture practices, food product processing, commercialization and small business administration	Market study Business plans Sanitary registry Training workshop reports with list of participants	Area technical coordinators. Agrobusiness specialist, specialist in post harvest processing of agroecological products Heifer/MAGAP
Output 2.4.3 Agrotourism routes expose and promote local agrobiodiversity.	In Imbabura UNORCAC has more than 10 years experience in agro-tourism through the agency Runa Tupari. In Chimborazo CEDEIN has developed agro-tourism routes but they are not operational. In Loja no routes exists.	Two agro-tourism routes developed in Paltas (Loja) and Colta Lake (Chimborazo).	Definition and restructuring of agro-tourism routes in Paltas and Colta	Business plans for the routes elaborated	Two (2) agro-tourism functioning	Meeting and workshop reports, register of participants. Business plans	Area technical coordinators. Agro-tourism specialist. Heifer/MAGAP

Indicators	Baseline (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of verification	Responsible for Data Collection
Component 3: Education and awareness of decision-makers, teachers and consumers about the environmental, nutritional, cultural and economic value of agrobiodiversity							
Outcome 3.1 Governmental decision-makers are informed and aware of the ecological, nutritional, cultural and economic values of agrobiodiversity	The awareness of decision makers on the importance of agrobiodiversity and the threats it faces is inadequate, which prevents that agro-biodiversity is integrated into policy agendas at national and local levels.	60 decision-makers government of four (4) governmental agencies (National Assembly, MAGAP, Ministry of Education and MIES) informed and aware				Reports of workshops and events; lists of participants	Specialist on education for agrobiodiversity INIAP
Output 3.1.1 Information and awareness-raising program for decision makers including one national workshop, training workshops and dissemination events on the importance of agrobiodiversity	There are no previous awareness initiatives targeting decision makers and specifically addressing the importance of agro-biodiversity.	One information and awareness-raising program implemented, including one (1) national workshop, four (4) local training workshops, and two (2) dissemination events, with at least 30% participation of women .	One national workshop One local workshop	One local workshop One dissemination and awareness event in the National Assembly	Two local workshops One dissemination and awareness event in the National Assembly	Reports of workshops and events; lists of participants	Specialist on education for agrobiodiversity Specialist on public policies on agrobiodiversity Technical area coordinators
Outcome 3.2 Strengthened capacities of local and technical schools for providing education and awareness raising in the importance and use of local agro-biodiversity in local diets.	17 schools in Cotacachi are already trained in education on agrobiodiversity. In other project areas the schools have no capacities for education on agrobiodiversity.	Thirty (30) schools educating and creating awareness among two thousand (2,000) students		Validation of a Methodological Guide in 30 schools and high schools	Publication and dissemination of the Methodological Guide 90 teachers trained	Methodological Guide Reports on the use of the Guide	Specialist on education for agrobiodiversity Heifer
Output 3.2.1 Methodological Guide for integrating agrobiodiversity and its values in the education systems at school and high school levels	The Guide on Agrobiodiversity developed in Cotacachi needs to be expanded and further developed.	One (1) Guide developed	First draft of the Guide		Publication and dissemination of the Guide	Guide published	Specialist on education for agrobiodiversity Heifer

Indicators	Baseline (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of verification	Responsible for Data Collection
Output 3.2.2 School teachers trained on the many values of local agrobiodiversity and the application of the Methodological Guide	Except in Cotacachi (20 trained school teachers), teachers in the project areas have no specific training on agrobiodiversity and on its values and threats.	Ninety (90) teachers of thirty (30) schools in the four provinces trained	6 workshops for training of teachers	8 workshops for training of teachers 3 training and exchange tours	4 workshops for training of teachers	Workshop reports, lists of participants	Specialist on education for agrobiodiversity Technical area coordinators Heifer
Output 3.2.3 Schools integrating agrobiodiversity issues with the application of the Methodological Guide	17 schools in Cotacachi use a Guide on Agrobiodiversity	Thirty (30) schools (of which 70% are in rural areas and 30% in main towns) in the four provinces		Validation of the Methodological Guide in the schools 13 events to link schools with communities	Follow-up to the implementation of the Methodological Guide 8 events to link schools with communities	Reports on the use of the Methodological Guide Reports of the events	Specialist on education for agrobiodiversity Technical area coordinators Heifer
Outcome 3.3 Urban and rural population of the intervention areas recognizes the value of local agrobiodiversity and consume products derived from it	USD 431,600 annual sales in 7 markets	28.5%[28] increase in the sales of 7 local fair markets of agrobiodiversity derived products (achieved jointly with outcomes 2.3 and 2.4)				Study on the project impact on local fairs	Technical area coordinators Project coordinator INIAP
Output 3.3.1 Dissemination materials (publication and video) on the value of agrobiodiversity	There are no specific dissemination materials on the value of agrobiodiversity	One (1) publication and one (1) video developed		Publication on the value of agrobiodiversity	Video on the value of agrobiodiversity	Document and video published	Specialist on education for agrobiodiversity INIAP
Output 3.3.2 Document integrating all project experiences		One (1) document developed and published			Document prepared	Document integrating all project experiences	Project coordinator INIAP

[28] The calculations for estimating this target are included in Table 2.2.

Indicators	Baseline (2013)	Target	Milestones towards achieving output and outcome targets			Data Collection and Reporting	
			Year 1	Year 2	Year 3	Means of verification	Responsible for Data Collection
Output 3.3.3 Promotional campaign on the importance of food security and sovereignty and the benefits of the conservation and use of agrobiodiversity	There have been no previous promotional campaigns or events specifically addressing this topic	One (1) promotional campaign implemented		7 open-house days in schools 2 education fairs on agrobiodiversity in public places	3 open-house days in schools 2 education fairs on agrobiodiversity in public places	Reports on the open-house days and on the education fairs on agrobiodiversity	Specialist on education for agrobiodiversity Technical area coordinators INIAP

APPENDIX 2: WORK PLAN (RESULTS BASED)

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
Component 1: Integrating the sustainable use and conservation of agrobiodiversity in public policies and their implementation														
Output 1.1.1. National Plan of Action for the implementation of the agrobiodiversity component of the National Biodiversity Strategy, including provisions for monitoring progress	*7 regional consultations for the development of the Plan of Action*	INIAP												
	Information gathering and preparation of the Plan of Action	INIAP												
	Meetings of the inter-institutional working group for the implementation of the Plan of Action	INIAP												
Output 1.1.2. Mechanism for the coordination and strategic partnerships among INIAP, MAGAP, MAE, SENPLADES and Decentralized Autonomous Governments on policies for the promotion and conservation of agrobiodiversity	*Initial coordination meetings*	INIAP												
	Meetings of the inter-institutional coordination Mechanism (INIAP-MAGAP-MAE-SENPLADES-GAD)	INIAP												
Output 1.1.3. Proposal for national public policy addressing the conservation and utilization of agrobiodiversity	*Preparation of draft proposal*	MAGAP												
	7 regional workshops to validate the proposal	MAGAP												
	Presentation of proposal to various fórums	MAGAP												
Output 1.1.4. Methodology for the assessment of diversity in traditional biodiversity-based farming systems and its role in food security and rural livelihood, to underpin public policies on agrobiodiversity	*Preparation of the assessment methodology*	Heifer												
	Field study to validate the methodology	Heifer												
	Presentation of the methodology and the results of its implementation	Heifer												
Output 1.2.1. Study on the implementation of Farmers' Rights in Ecuador, identification of options to expand this implementation, and proposal of programme for the implementation of Farmers' Rights by relevant governmental authorities	*Preparation of a study on the implementation of Farmers' Rights in Ecuador*	MAGAP												
	Preparation of the proposal of program for the implementation of FR by relevant governmental authorities.	MAGAP												
	Follow up, revision and refinement of the proposal	MAGAP												
Output 1.2.2. Information campaign on Farmers' Rights in consistency with the IT-PGRFA addressed to farmers and indigenous organizations	*Meetings of the inter-institutional Committee on FR, with the participation of farmers*	MAGAP												
	Dissemination workshops on FR	MAGAP												
	Development and implementation of a wide information campaign	MAGAP												
Output 1.3.1. Proposals for provincial regulations on conservation and sustainable use of agrobiodiversity	*Definition of the participatory methodology in agreement with GADs*	Heifer												
	12 workshops at canton level for consultation of the proposed regulations and the provincial DLUP (output 1.3.2)	Heifer												
	Analysis of the collected information	Heifer												

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
	Workshops at provincial level for presentation and validation of the proposed regulations and DLUP (output 1.3.2)	Heifer												
	Presentation of the proposals to GADs	Heifer												
	Monitoring the approval processes of the proposals	Heifer												
Output 1.3.2. Provincial Development and Land Use Plans integrating the value, sustainable use and conservation of agrobiodiversity	*First workshops with GAD officials*	Heifer												
	Intermediate workshops with GAD officials	Heifer												
	Final workshops with GAD officials	Heifer												
Component 2: Scaling up of good practices in the *in situ* and *ex situ* conservation and sustainable use of agrobiodiversity														
Output 2.1.1. Crop collections, including of under-utilized species, with relevant traits of resistance to stress established or expanded through collecting expeditions	*Plant germplasm collection expeditions*	INIAP												
	Sample preparation, viability control, multiplication	INIAP												
	Ex situ conservation	INIAP												
	Morphologic, eco-geographic and molecular characterization	INIAP												
Output 2.1.2. Collaboration agreements on agrobiodiversity between five farmers'/indigenous organizations, INIAP and other partners, including actions for *ex situ* conservation and *in situ* management, and with participatory and gender-sensitive approaches	*Workshops to determine the contents of the agreements*	INIAP												
	Signature of agreements	INIAP												
	Follow-up the implementation of agreements	INIAP												
Output 2.2.1. Rural families trained on *in situ* management and utilization of agrobiodiversity, based on the needs identified in the farming systems	*Identification of workshop participants*	INIAP												
	Training workshops on conservation and use of agrobiodiversity and organic farming	INIAP												
Output 2.2.2. Local inventories of agrobiodiversity and its related traditional knowledge, and community registers of crop diversity in family farms developed through a participatory research	*Identification of households for the inventories*	INIAP												
	Development of local inventories of agrobiodiversity	INIAP												
	Establishment of committees for community registers	INIAP												
	Monitoring the agro-diversity in use at the communities	INIAP												
	Publication of agrobiodiversity catalogues based on the inventories and community registers	INIAP												
Output 2.2.3. Local seed fairs formalized	*Financial and operational planning*	INIAP												
	Promotion of fairs	INIAP												
	Development of fairs	INIAP												
	Evaluation of fairs	INIAP												
Output 2.2.4. Bio-knowledge Centres and community seed banks established or strengthened to multiply	*Establishment of Bio-knowledge Centres (seed plots, conservation areas)*	INIAP												

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
and restore local representative species in the farms	*Management of the Centre and continued production of seed*	INIAP												
	Delivery of diverse germplasm to households	INIAP												
	Strengthening community banks or areas of agrobiodiversity conservation	INIAP												
Output 2.3.1. Standards of good practices of *in situ* management of agrobiodiversity, and Participatory Guarantee Systems issuing distinctive labels for the implementation of the good practices, managed by local farmers' networks and indigenous organizations	*Identification and selection of participant organizations and networks*	Heifer												
	Establishment of Participatory Guarantee Systems	Heifer												
	Workshops for the definition of acreditation standards based on good practices of agrobiodiversity conservation, and acreditation committees	Heifer												
Output 2.3.2. Smallholders trained and producing under Participatory Guarantee Systems of organic and biodiversity-based farming practices, some of which sell their products	*Identification and selection of households for PGS acreditation*	MAGAP/ Heifer												
	Training on SPG standards and methodology	MAGAP/ Heifer												
	Technical support to farmers in the implementation of biodiversity-based farming practices for their incorporation to PGS	MAGAP/ Heifer												
	Acreditation of small farms	MAGAP/ Heifer												
Output 2.3.3. Proposal of quality label at national level for products from biodiversity-based farming systems, based on the experiences of local guarantee systems	*Evaluation of the acreditation standards and the implementation of PGS in the project areas*	Heifer												
	Workshop to present and validate the proposal of national quality label	Heifer												
Output 2.4.1. Weekly trade fairs in local markets strengthened	*Development of a marketing plan for organic fairs*	Heifer												
	Implementation of marketing plan at organic	Heifer												
	Providing equipment for organic fairs	Heifer												
	Workshops training in marketing and management of post-harvest agricultural crops	Heifer												
Output 2.4.2. Small community businesses producing new products with increased use of agrobiodiversity originated in participant households	*Development of a market study in processed products from community-based micro-enterprises*	Heifer												
	Development of business plans for agro-business micro-enterprises	Heifer												
	Improvement of infrastructure and equipment	Heifer												
	Workshop training on best practices on manufacturing, management, and administering rural enterprises	Heifer												
	Obtain health permits and other requirements	Heifer												
Output 2.4.3. Agro-tourism routes showing and promoting the traditional agrobiodiversity	*Identification of potential funding sources, participants, and development of routes/destinations?*	Heifer												
	Evaluation of routes/destinations and selection of destination/route	Heifer												
	Elaboration of a business plan	Heifer												
	Implementation / potenciación as	Heifer												

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
Component 3: Education and awareness of decision-makers, teachers and consumers about the environmental, nutritional, cultural and economic value of agrobiodiversity														
Output 3.1.1. Information and awareness-raising program for decision makers including one national workshop, training workshops and dissemination events on the importance of agrobiodiversity	*Workshop for decision makers of national institutions*	INIAP				■								
	Workshop for decision makers of provincial and cantonal institutions	INIAP			■				■			■		
	Dissemination and awareness events	INIAP								■			■	
Output 3.2.1. Methodological Guide for integrating agrobiodiversity and its values in the education systems at school and high school levels	*Preparation of a draft Guide*	INIAP			■									
	Publication and dissemination of the Methodological Guide	INIAP											■	
Output 3.2.2. School teachers trained on the many values of local agrobiodiversity and the application of the Methodological Guide	*Setting-up stakeholder groups for the training program*	INIAP	■											
	Training workshops for teachers and other stakeholders	INIAP		■	■	■	■	■	■	■	■	■	■	
	Training and exchange tours	INIAP						■	■	■				
Output 3.2.3. Schools integrating agrobiodiversity issues with the application of the Methodological Guide	*Validation of Methodological Guide in the schools*	INIAP							■	■				
	Events to link schools with communities	INIAP						■	■	■	■	■		
Output 3.3.1. Dissemination materials (publication and video) on the value of agrobiodiversity	*Publication on the value of agrobiodiversity*	INIAP								■				
	Video on the value of agrobiodiversity	INIAP										■		
Output 3.3.2. Document integrating all project experiences	*Gathering and analysis of all project experiences*	INIAP												■
Output 3.3.3. Promotional campaign on the importance of food security and sovereignty and the benefits of the conservation and use of agrobiodiversity	*Open-house days, as links of schools and communities*	INIAP							■	■	■	■		
	Education fairs on agrobiodiversity in public places	INIAP							■	■	■	■		
Project Management														
	1. Coordinate and plan project activities and prepare the AWP/B	INIAP and Heifer supported by MAGAP and FAO	■			■	■			■	■			
	2. Monitor Project progress in the field and through the revision of technical products and consultancy reports	INIAP and Heifer supported by MAGAP and FAO	■	■	■	■	■	■	■	■	■	■	■	■
	3. Prepare PPR	INIAP and Heifer supported by MAGAP	■		■		■		■		■		■	
	4. Provide inputs for the PIR	INIAP and Heifer			■				■				■	

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3			
			Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3	Q1	Q2	Q3
		supported by MAGAP												
	5. Establish and maintain updated the webpage of the projects	INIAP												

APPENDIX 3: RESULTS BUDGET

Comp. 1: Ag BD Integrated into public policy	**Comp. 2: Scaling up good practices *in situ* and *ex situ* conservation**		**Comp. 3: Educating and raising awareness on Ag-BD**
O 1.1.1: National Plan of Action for the implementation of NSB	O 2.1.1: Expansion of crop collections	O 2.3.3: National label for products from agrobiodiversity farms	O 3.1.1: Raising awareness among decision-makers
O 1.1.2: Public Policy Proposal on Ag-BD	O 2.1.2: Collaboration agreements on integrating *ex situ* conservation and *in situ* management of Ag-BD	O 2.4.1: Local fairs selling biodiversity-based products	O 3.2.1: Methodological guide for education in Ag-BD
O 1.1.3: Coordination Mechanism for policies and programs on Ag-BD	O 2.2.1: Training of rural families in Ag-BD management	O 2.4.2: Support to community micro-enterprises (100% co-financing)	O 3.2.2: School teachers trained in the implementation of the methodological guide
O 1.1.4: Methodological guide to assess the value of agrobiodiversity	O 2.2.2: Local inventories of Ag-BD	O 2.4.3: Support to agritourism routes	O 3.2.3: Incorporation of agrobiodiversity use and conservation in education
O 1.2.1: Implementation of the program on farmers' rights	O 2.2.3: Local seed fairs		O3.3.1: Dissemination materials and video (100% co-financing)
O 1.2.2: Campaign on farmers' rights (100% co-financing)	O 2.2.4: Bio-knowledge Centers and community seed banks		O 3.3.2: Document integrating all project products and lessons learned
O 1.3.1: Provincial ordinances/regulations of Ag-BD	2.3.1: Participatory Guarantee Systems and accreditation		O 3.3.3: Promotional campaign on the nutritional value of Ag-BD
O1.3.2: Integration of the value of Ag-BD in DLUPs	O 2.3.2: Training and scaling up production of certified products		

				BUDGET IN US DOLLARS				Total	Budget per year		
Códice y descripción Oracle	**Units**	**Quantity of units**	**Cost per unit**	**Component 1** Total	**Component 2** Total	**Component 3** Total	**PM**	**GEF**	**Year 1**	**Year 2**	**Year 3**
5300 Professional Salary											
Operational & Administritativel Officer (part-time)	Monthly	36	1136.92	0	0	0	40,929	40,929	13,643	13,643	13,643
				0	0	0		0			
Professional Salary Sub-total				0	0	0	40,929	40,929	13,643	13,643	13,643
National Consultants											

				BUDGET IN US DOLLARS				Total	Budget per year		
Códice y descripción Oracle	Units	Quantity of units	Cost per unit	Component 1 Total	Component 2 Total	Component 3 Total	PM	GEF	Year 1	Year 2	Year 3
Project coordinator	Monthly	36	3,000	21,000	33,000	18,000	36,000	108,000	36,000	36,000	36,000
Students agronomy, biology or biotechnology (3)	Monthly	36	500	0	18,000	0		18,000	9,000	9,000	
Ag BD specialists on inventories and community registers (3)	Monthly	18	1,500	0	27,000	0		27,000	9,000	9,000	9,000
Field assistants (6)	Monthly	204	500	0	102,000	0		102,000	30,000	36,000	36,000
Agronomists (3)	Monthly	102	1,200	0	122,400	0		122,400	38,400	44,000	40,000
Conservation and use of Ag DB Specialist to prepare National Plan of Action	Monthly	2	1,800	3,600	0	0		3,600	3,600		
Public Policy specialist on Ag BD	Monthly	14	1,400	19,600	0	0		19,600	5,600	7,000	7,000
Environmental Education Specialist on AgBD	Monthly	20	1,400	0	0	28,000		28,000	7,000	14,000	7,000
Designer for the methodological guide for education in agrobiodiversity	Monthly	6	850	0	0	5,100		5,100	5,100		
Draftsman for the educational methodological guide	Monthly	1	1,000	0	0	1,000		1,000	1,000		
National Consultants sub-total				44,200	302,400	52,100	36,000	434,700	144,700	155,000	135,000
5570 Sub-total consultants				44,200	302,400	52,100	76,929	475,629	158,343	168,643	148,643
5650 Contracts											
Letter of Agreement with Heifer (see tab "CdA Heifer" for a detailed budget)	Lump sum	1		20,820	506,101			526,921	217,892	208,129	100,900
Final Evaluation	Lump sum	1	30,000	7,000	13,500	7,500	2,000	30,000			30,000
Mid-term evaluation	Lump sum	1	15,000	3,500	5,500	3,000	3,000	15,000		15,000	
5650 Sub-total Contracts				31,320	525,101	10,500	5,000	571,921	217,892	223,129	130,900
5900 Travel											
collection missions, travel allowance and gas	Lump sum	15	460	0	6,900	0		6,900	3,450	3,450	
Travel to workshops agreements on conservation, travel allowance	Day	20	70	0	1,400	0		1,400	1,400		

				BUDGET IN US DOLLARS				Total	Budget per year		
Códice y descripción Oracle	Units	Quantity of units	Cost per unit	Component 1 Total	Component 2 Total	Component 3 Total	PM	GEF	Year 1	Year 2	Year 3
Producers visits to Bio-Knowledge Centers	Visit (40 people)	30	230	0	6,900	0		6,900	2,300	2,300	2,300
Travel for 2 technical staff to workshop trainings (travel allowance)	Day	200	70	0	14,000	0		14,000	4,000	7,000	3,000
Travel allowance for AG BD specialists on inventories and community registers	Days	20	70	0	1,400	0		1,400	1,400		
Travel of field assistants (6) and three field technical staff (gas)	Lump sum month	34	200	0	6,800	0		6,800	2,200	2,300	2,300
Travel allowance for INIAP technical staff	Days	43	70	0	3,010	0		3,010	1,505	1,505	
Environmental education specialist travels	Lump sum	1	4,500	0	0	4,900		4,900	900	2,000	2,000
Travel (tour) for school teachers training on agrobiodiversity	Travel (30 people)	3	1,400	0	0	4,200		4,200		4,200	
Local travel for implementation of educational guide in education on Ag BD.	Travel; (4 people)	30	150	0	0	4,500		4,500		3,000	1,500
Travel project coordinator	Lump sum		18,325	0	0	0	18,325	18,325	6,108	6,108	6,108
5900 Sub-total travel				0	40,410	13,600	18,325	72,335	23,263	31,863	17,208
5023 Workshop and trainings											
Workshop to develop agreements on conservation	Workshop	5	500	0	2,500	0		2,500	2,500		
Workshop training on Ag BD management (food)	Workshop (40 people)	75	200	0	15,000	0		15,000	5,000	5,000	5,000
Workshops variety validation with producers (15 per workshop -transportation, food)	Workshop (15 people)	9	300	0	2,700	0		2,700	2,700		
Training communities on understanding and presenting with Bio-knowledge centers	course(10)	30	50	0	1,500	0		1,500	500	1,000	

				BUDGET IN US DOLLARS				Total	Budget per year		
Códice y descripción Oracle	Units	Quantity of units	Cost per unit	Component 1 Total	Component 2 Total	Component 3 Total	PM	GEF	Year 1	Year 2	Year 3
Regional workshops elaboration of the National Plan of Action	workshop (100 people)	7	1,500	10,500	0	0		10,500	10,500		
Regional workshops approval of public policy proposals	Workshop (50 people)	7	700	4,900	0	0		4,900	4,900		
The Ag BD inserted within the calendar of events within the framework of the international year of family agriculture	Event (50 people)	1	2,500	0	0	2,500		2,500		1,500	1,000
Workshop in education and awareness raising to decision-makers at local level(GAD)	Workshop (30 people, 1 day)	4	160	0	0	640		640	640		
Political dialog with representatives of the national Assembly	Event (20 people)	1	1,100	0	0	1,100		1,100	1,100		
Training school teachers in education on agrobiodiversity	Workshop (30 people)	18	200	0	0	3,600		3,600	1,600	2,000	
Presenting the results of the education to the community	Event	21	250	0	0	5,250		5,250		3,000	2,250
Open house to show the importance of Ag BD at the urban school system	open house	10	250	0	0	2,500		2,500		1,000	1,500
Ag BD educational fair at a public square	Fair	4	770	0	0	3,080		3,080		1,080	2,000
Inception workshop	Event (20 people)	1	3,000	0	0	0	3,000	3,000	3,000		
5023 Sub-total workshops and trainings				15,400	21,700	18,670	3,000	58,770	32,440	14,580	11,750
6000 Goods and equipment supplies											
Laboratory inputs for analysis of characterization	Lump sum		10,000	0	10,000	0		10,000	4,000	5,000	1,000
Training materials (one toolkit per	Toolkit	3	2,000	0	6,000	0		6,000	2,000	2,000	2,000

				BUDGET IN US DOLLARS				Total	Budget per year		
Códice y descripción Oracle	Units	Quantity of units	Cost per unit	Component 1 Total	Component 2 Total	Component 3 Total	PM	GEF	Year 1	Year 2	Year 3
organization)											
Catalog publication	Publication	3	5,000	0	15,000	0		15,000			15,000
Toolkits for inventories	Toolkit	3	500	0	1,500	0		1,500	1,500		
Seeds, plants and small tools to be used as awards	Fair	8	1,000	0	8,000	0		8,000	3,000	3,000	2,000
Methodological guide for education	Publication	1000	8	0	0	8,000		8,000			8,000
Toolkits for pilot implementation of methodological guide in 45 schools	Toolkit	30	200	0	0	6,000		6,000		6,000	
Publication of best practices validated by the project (25 pages)	Publication	500	15	0	0	7,500		7,500			7,500
6000 Sub-total Goods and equipment supplies				0	40,500	21,500	0	62,000	10,500	16,000	35,500
6100 Goods and non-expendable equipment											
Laptops	Laptop	3	1,000	0	2,000	0	1,000	3,000	3,000		
Projector	Projector	2	800	0	1,600	0		1,600	1,600		
6100 Sub-total Good and non-expendable equipment				0	3,600	0	1,000	4,600	4,600	0	0
6300 General operating expenses											
Miscellaneous				0	0	0	4,745	4,745	1,745	1,500	1,500
6300 Sub-total general operating expenses				0	0	0	4,745	4,745	1,745	1,500	1,500
TOTAL				90,920	933,711	116,370	108,999	1,250,000	448,783	455,715	345,501

SUBTOTAL Comp 1	**90,920**	7.3%
SUBTOTAL Comp 2	**933,711**	74.7%
SUBTOTAL Comp 3	**116,370**	9.3%
SUBTOTAL PM	**108,999**	8.7%
TOTAL GEF	**1,250,000**	100.0%

				Letter of Agreement with Heifer										Total	Expenses by year		
				Component 1				Component 2						GEF	Year 1	Year 2	Year 3
Códice y descripción Oracle	Unit	Quantity of units	Cost per unit	1.1.4	1.3.1	1.3.2	Total	2.3.1	2.3.2	2.3.3	2.4.1	2.4.3	Total				
National Consultants																	
Specialist in certification system for biodiversity-based products	Month	12	1,000				0	12,000					12,000	12,000	12,000		
Advisers to the plots' overseers implementing certification (3)	Month	36	150				0		5,400				5,400	5,400		3,000	2,400
IT operator for the establishment, completion and training registration of certified plots	Month	6	1,000				0	6,000					6,000	6,000	6,000		
Specialist in certification system for biodiversity-based products for a national label proposal	Month	3	1,200				0			3,600			3,600	3,600		1,200	2,400
Organic farming marketing specialist for design and image implementation	Month	2	1,250				0				2,500		2,500	2,500		2,500	
Trainer and marketing specialist for local market fair products	Month	4	1,250				0				5,000		5,000	5,000		5,000	
Post-harvest management specialist	Month	1	1,250				0				1,250		1,250	1,250		1,250	
Business plan specialist for agritourism routes in Chimborazo and Loja	Month	6	1,250				0					7,500	7,500	7,500		7,500	
Cultural and socio-economic specialist to support the development of the assessment methodology on the value of Ag BD and pilot implementation(co-financing by HEIFER)	Month	1	1,120	1,120			1,120						0	1,120	1,120		
Workshop facilitator on provincial regulation consultation and development of consultation process report	Month	9	1,000		9,000		9,000						0	9,000	4,500	4,500	
Sub-total National Consultants				1,120	9,000	0	10,120	18,000	5,400	3,600	8,750	7,500	43,250	53,370	23,620	24,950	4,800
5650 Contracts																	

				Letter of Agreement with Heifer										Total	Expenses by year		
				Component 1				Component 2						GEF	Year 1	Year 2	Year 3
Códice y descripción Oracle	Unit	Quantity of units	Cost per unit	1.1.4	1.3.1	1.3.2	Total	2.3.1	2.3.2	2.3.3	2.4.1	2.4.3	Total				
Identify two routes in Chimborazo and Loja. Provide training in hygiene, food handling, gastronomy, handicrafts, administration, accounting, computer literacy and customer service	Lump sum	1	22,079				0					22,079	22,079	22,079	5,500	16,579	
5650 Sub-total Contracts				0	0	0	0	0	0	0	0	22,079	22,079	22,079	5,500	16,579	0
5900 Travel														0			
Travels specialist in certification systems of biodiversity-based systems : travel allowance 40 days at 70$, travel by land 900$, three plane tickets 390$)	Lump sum		4,090				0	4,090					4,090	4,090	4,090		
IT operator for the establishment, completion and training on registration of certified plots (travel allowance: 12 days at 70$, travel by land 100$)	Lump sum		980				0	980					980	980	980		
Exchange visits of experience among producers	Visit (20 people)	100	150				0		15,000				15,000	15,000	3,000	10,000	2,000
Marketing specialist travels (travel allowance 18 days at 70$, air travel for 2, travel by land)	Travel	9	150				0				1,350		1,350	1,350	1,350		
Post-harvest management specialist (travel allowance 18 days at 70$, air travel for 2, travel by land)	Travel	9	150				0				1,350		1,350	1,350	1,350		
Agritourism routes business plan specialist travel	Travel (5 days)	2	400				0					800	800	800	800		
5900 Sub-total travel				0	0	0	0	5,070	15,000	0	2,700	800	23,570	23,570	11,570	10,000	2,000
5023 Workshops, capacity building and trainings																	

				Letter of Agreement with Heifer										Total	Expenses by year		
				Component 1				Component 2						GEF	Year 1	Year 2	Year 3
Códice y descripción Oracle	Unit	Quantity of units	Cost per unit	1.1.4	1.3.1	1.3.2	Total	2.3.1	2.3.2	2.3.3	2.4.1	2.4.3	Total				
Workshop training management of small livestock (75), green manure (75), fruit trees (75), crop management (75))	Workshop	300	100				0		30,000				30,000	30,000	10,000	10,000	10,000
Workshop training post-harvest practices, selling and marketing of Ag BD products	Workshop (30 people for 2 days)	9	400				0				3,600		3,600	3,600	600	1,500	1,500
Workshop identification and validation of agritourism routes	Workshop (50 people)	10	200				0					2,000	2,000	2,000	2,000		
Workshop participatory development of provincial regulations and gathering of information for the DLUPs (15 cantons and 6 provinces)	Workshop (45 people 2 days)	14	700		9,800		9,800						0	9,800	4,900	4,900	
Workshop with provincial GADs to incorporate the conservation and use of AgBD in the DLUPs	Workshop (60 people)	9	100			900	900						0	900	200	700	
5023 Sub-total Workshops, capacity building and trainings				0	9,800	900	10,700	0	30,000	0	3,600	2,000	35,600	46,300	17,700	17,100	11,500
6000 Goods and equipment supplies																	
Inputs for the each one teach one system or revolving credit (seeds, organic fertilizers, fruit trees) for 3000 families	Family	3000	100				0		300,000				300,000	300,000	90,000	130,000	80,000
Toolkits for capacity building workshops on production of certified products	Toolkits	150	50				0	7,500					7,500	7,500	7,500		
Agritourism route signs	Tourist signs (2 x route)	4	2,000				0					8,000	8,000	8,000	4,000	4,000	
Brochures describing the agritourism routes	Brochures	12000	0.3				0					3,600	3,600	3,600		2,000	1,600
Photographic guide agritourism routes	Photographic guide	2	1,000				0					2,000	2,000	2,000		1,000	1,000

				Letter of Agreement with Heifer										Total	Expenses by year		
				Component 1				Component 2						GEF	Year 1	Year 2	Year 3
Códice y descripción Oracle	Unit	Quantity of units	Cost per unit	1.1.4	1.3.1	1.3.2	Total	2.3.1	2.3.2	2.3.3	2.4.1	2.4.3	Total				
Tourist guide	Guides	3000	0.8				0					2,500	2,500	2,500		2,500	
6000 Sub-total goods and equipment supplies				0	0	0	0	7,500	300,000	0	0	16,100	323,600	323,600	101,500	139,500	82,600
6100 Goods and non- expendable equipment																	
Equipment for fairs (tents, tables and chairs, lettering, aprons, hats, etc.)	Fair	7	8,286				0				58,002		58,002	58,002	58,002		
6100 Sub-total goods and non-expendable supplies				0	0	0	0	0	0	0	58,002	0	58,002	58,002	58,002	0	0
6300 General operating costs																	
							0						0	0			
6300 Sub-total general operating costs				0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL				1,120	18,800	900	20,820	30,570	350,400	3,600	73,052	48,479	506,101	526,921	217,892	208,129	100,900

APPENDIX 4: RISK MATRIX

Risk Description	Category[29]	Impact[30]	Likelihood[31]	Mitigating actions	Owner	Status[32]

[29] Risk categories defined in the FAO ERM Strategy: CLEAR INTENDED PURPOSE (IMPACT &OUTCOME); EFFECTIVE DELIVERY STRATEGY; EXTERNAL STAKEHOLDER SUPPORT; INTERNAL STAKEHOLDER SUPPORT; RIGHT RESOURCES; VIABLEDELIVERY STRUCTURES; STRONG DELIVERY MANAGEMENT.

[30] H: High, M: Medium, L: Low

[31] H: High, M: Medium, L: Low

[32] To be updated during implementation and monitoring phase (no change, reduced, increased).

APPENDIX 5: PROCUREMENT PLAN

Ref. No.	Requirement (Item Description)	Unit (Lts, MT, Kg., etc.)	Estimated quantities	Estimated cost	Unit price[33]	Solicitation Method[34]	Procurement Method[35]	Buyer[36]	Targeted tender launch date	Targeted contract award date	Targeted Delivery date	Final destination and delivery terms	Status[37]	Other Constraints/ Considerations

[33] To be completed during project cycle implementation and monitoring phase.
[34] RFP: Request for Proposal; RFQ: Request for Quotation; ITB: Invitation to Bid.
[35] Direct Procurement, re-use of tender results, UN, Framework, etc.
[36] CSAP, Non-HQ Location, Procurement Mission.
[37] Planned, Requested, Tendered, Order Placed, Delivered, Completed.

APPENDIX 6: TERMS OF REFERENCE (TORS)

#1. Borrador de Términos de Referencia: Consultor Nacional – Coordinador/a del proyecto

Antecedentes

Actividades y alcance de la consultoría

El Coordinador del Proyecto trabajará bajo la supervisión directa del Comité Técnico y en estrecha coordinación con los Comités Locales y el equipo técnico del proyecto. Se encargará de la planificación general y coordinación de la realización de todas las actividades del proyecto. En particular, se incluyen las siguientes tareas:

1. Preparar y dar seguimiento a los planes de trabajo anuales y los planes de adquisiciones.
2. Supervisar la ejecución de las obras y actividades desarrolladas por el Proyecto.
3. Coordinar la elaboración de los Presupuestos, Planes Operativos Anuales y Programaciones cuatrimestrales del Proyecto.
4. Coordinar y monitorear la preparación de los informes de avance técnico y financiero del Proyecto, de acuerdo con los requerimientos de los organismos locales, INIAP, Heifer, la FAO y el GEF.
5. Apoyar los procesos de identificación y selección de sub-proyectos de conservación ambiental.
6. Coordinar el diseño y operación del sistema de seguimiento y evaluación del Proyecto.
7. Apoyar el establecimiento de alianzas estratégicas y convenios con otros actores locales públicos y privados para apoyar la implementación del Proyecto.
8. Realizar la eventual actualización del manual operativo del proyecto (POM), que debe ser autorizado por la FAO.
9. Monitorear la ejecución de los desembolsos y la ejecución financiera.
10. Supervisar los procedimientos de contratación (bienes y servicios).
11. Gestionar un sistema de información financiera para seguir la contabilidad del proyecto y los desembolsos.
12. Gestionar un sistema de información de contratación y proyectar los resultados para controlar la ejecución y los resultados del proyecto.
13. Preparar los informes y dar seguimiento a los avances del proyecto que se presentarán al Comité Directivo y al Comité Técnico del Proyecto para su evaluación.
14. Entregar la información relacionada con el proyecto requerida por las organizaciones ejecutoras, la FAO como agencia implementadora y el GEF como donante. Coordinar la preparación de las distintas modalidades contractuales y los acuerdos institucionales necesarios para ejecutar las actividades del proyecto a nivel provincial y local.
15. Preparar y desarrollar las misiones de supervisión del proyecto y la misión de evaluación a medio plazo de la FAO.
16. Supervisar la aplicación de los planes de trabajo de todos los miembros del Equipo Técnico del Proyecto.
17. Facilitar la preparación y ejecución de formación y eventos de capacitación.
18. Asegurar que los enfoques participativos e integrados, la participación de múltiples partes interesadas, etc. se sigan durante la ejecución del proyecto.
19. Convocar a reuniones periódicas del Comité Técnico del Proyecto a fin de coordinar actividades, intercambiar lecciones aprendidas y armonizar los enfoques.
20. Facilitar la preparación de los informes de auditoría técnica y financiera.

21. Promover canales de comunicación entre las organizaciones ejecutoras.

Productos a desarrollar

El/la Coordinador/a del Proyecto será contratado/a y desempeñará sus funciones bajo dependencia del Comité Técnico del Proyecto.

De acuerdo con el Plan de Trabajo y los requerimientos de su ejecución, efectuará los viajes que se consideren necesarios, debidamente autorizados por el Comité Técnico del Proyecto.

Informes a presentar

El/la consultor/a deberá presentar informes mensuales para el cobro de sus honorarios, al Comité Técnico del proyecto cuando sea requerido por las organizaciones ejecutoras, la FAO como agencia implementadora y el GEF como donante.

Tiempo de ejecución

Esta consultoría tendrá un contrato con una duración de un año, que puede ser renovado si las partes lo acuerdan y previo una evaluación de desempeño del personal.

Información, servicios, local, personal e instalaciones que proporcionará el contratante

El INIAP (socio ejecutor) proporcionará a/al Consultor/a, todos los documentos generados: (i) Documento de Proyecto, (ii) Documentos de Negociación (ii) Acuerdo de ejecución, entre otros.

El INIAP (socio ejecutor) proveerá al consultor de una oficina equipada, equipo de cómputo y servicio de teléfono e internet.

Perfil profesional requerido

- Profesional con estudios en ingeniería agronómica, forestal o ambiental, con experiencia profesional o académica en áreas ambientales o sociales y/o conocimientos en temas de agrobiodiversidad.
- Experiencia mínima de 5 años en la gerencia de proyectos sobre conservación y uso de los recursos genéticos para la agricultura y la alimentación o naturales, seguridad alimentaria, agroecológia, desarrollo rural.
- Conocimiento y manejo de herramientas de planificación participativa, control social y rendición de cuentas.
- Amplio conocimiento de la realidad socio económica del área rural ecuatoriana, especialmente en la zona andina.
- Experiencia plurianual de fortalecimiento de capacidades en temas de uso y valoración de la agrobiodiversidad y agroecología.
- Capacidad e iniciativa para la planeación, la toma de decisiones también bajo presión.
- Experiencia de trabajo con equipos multidisciplinarios y capacidad demostrada de coordinarlos.
- Capacidad demostrada en la preparación de documentos, evaluación de propuestas, redacción de informes, realización de procesos y preparación de contratos.

- Experiencia de al menos un año en administración financiera de proyectos de desarrollo financiados por organismos internacionales.
- Conocimiento de las normas y regulaciones para adquisiciones de acuerdo con la normativa nacional.
- Capacidad de coordinación y supervisión.
- Disponibilidad para viajar con frecuencia a Loja, Chimborazo, Pichincha e Imbabura.
- Conocimiento básico del idioma inglés.

#2. Borrador de Términos de Referencia: Consultor Nacional – Coordinador Técnico Zonal (3)

Bajo la supervisión general del Comité Local de la zona y la supervisión directa del Coordinador del proyecto, el Coordinador Técnico Zonal se encargará de liderar, supervisar y coordinar todas las actividades del proyecto en su zona de actuación. En particular se encargará de las siguientes tareas principales:

1. Liderar la colaboración y el involucramiento de las instituciones contraparte del proyecto en su zona de actuación.
2. Asumir las funciones de secretario del Comité Local, lo que incluye: convocar las reuniones del Comité y proponer la agenda de trabajo, preparar la documentación necesaria para la toma de decisiones, levantar actas de las reuniones, dar seguimiento a las decisiones del Comité, y cualquier otra tarea asignada por el Comité.
3. Colaborar con el Coordinador del proyecto en las actividades de planificación, seguimiento, evaluación y presentación de informes, según proceda.
4. Supervisar a los promotores de campo locales en la ejecución de sus actividades.
5. Cooperar con las contrapartes y los consultores contratados por el proyecto en las distintas actividades realizadas en su área de actuación.
6. Facilitar la firma de acuerdos entre las organizaciones campesinas e indígenas e INIAP, y colaborar en el seguimiento y evaluación del cumplimiento de los compromisos adquiridos.
7. Facilitar y colaborar en el diseño de las misiones de colecta de germoplasma del INIAP en su zona de actuación.
8. Coordinar la planificación y ejecución de las actividades de capacitación de las familias campesinas en temas sobre manejo y uso *in situ* de la agrobiodiversidad en parcelas agroecológicas, incluyendo la identificación y selección de familias participantes.
9. Promover la institucionalización de las ferias locales de intercambio de semillas.
10. Facilitar el funcionamiento de los centros de bioconocimiento y desarrollo agrario y los bancos comunitarios de semillas.
11. Coordinar la aplicación de sistemas participativos de garantía de parcelas bajo buenas prácticas de manejo *in situ* de la agrobiodiversidad.

Perfil profesional: Titulado universitario en agronomía o carreras afines, con un mínimo de 6 años de experiencia de trabajo en proyectos de seguridad alimentaria, conservación y uso de la agrobiodiversidad en comunidades rurales de las regiones alto andinas de Ecuador.

Duración: 34 meses.

Lugar de destino:

- Coordinador Técnico Zona Norte: Ibarra, con frecuentes viajes a las zonas de actuación del proyecto (cantones Cotacachi y Otavalo en la provincia de Imbabura, parroquia La Esperanza en la provincia de Pichincha).
- Coordinador Técnico Zona Centro: Riobamba, con frecuentes viajes a las zonas de actuación del proyecto (cantones Guamote y Colta, provincia de Chimborazo).
- Coordinador Técnico Zona Sur: Loja, con frecuentes viajes a las zonas de actuación del proyecto (cantones Saraguro y Paltas, provincia de Loja).

Idioma: Español.

#3. Borrador de Términos de Referencia: Consultor Nacional – Promotor de campo local (6)

Bajo la supervisión general del Coordinador del proyecto y la supervisión directa del Coordinador Técnico Zonal, el Promotor de campo local se encargará de apoyar y facilitar todas las actividades del proyecto a nivel de campo en su zona de actuación. En particular se encargará de las siguientes tareas principales:

1. Apoyar la identificación y selección de familias que intervendrán en las acciones del proyecto.
2. Apoyar la capacitación de las familias involucradas en agroecología.
3. Apoyar la implementación de parcelas agroecológicas y asesoramiento a familias campesinas en producción agroecológica.
4. Apoyar en la organización en las ferias de intercambio de semillas y de productos agroecológicos.
5. Apoyar en el manejo de los bancos de semillas comunitarios.
6. Apoyar en la toma de datos sobre registros comunitarios de la agrobiodiversidad y colecta de las especies propias del cantón.
7. Facilitar a las contrapartes y a los consultores contratados por el proyecto la realización de las distintas actividades en su área de actuación.
8. Colaborar con el Coordinador Técnico zonal en las actividades de planificación, seguimiento, evaluación y presentación de informes, según proceda.

Perfil profesional: Técnico agrícola, con un mínimo de 6 años de experiencia de trabajo en proyectos de seguridad alimentaria, conservación y uso de la agrobiodiversidad en comunidades rurales de las regiones alto andinas de Ecuador.

Duración: 34 meses.

Lugar de destino:

- Promotor de campo local Cotacachi: Cotacachi, con frecuentes viajes a las zonas de actuación del proyecto en el cantón Cotacachi (provincia Imbabura).
- Promotor de campo local Otavalo-La Esperanza: Otavalo, con frecuentes viajes a las zonas de actuación del proyecto en el cantón Otavalo (provincia Imbabura)y la parroquia La Esperanza (provincia Pichincha).
- Promotor de campo local Guamote: Guamote, con frecuentes viajes a las zonas de actuación del proyecto en el cantón Guamote (provincia Chimborazo).
- Promotor de campo local Colta: Cajabamba, con frecuentes viajes a las zonas de actuación del proyecto en el cantón Colta (provincia Chimborazo).
- Promotor de campo local Saraguro: Saraguro, con frecuentes viajes a las zonas de actuación del proyecto en el cantón Saraguro (provincia Loja).
- Promotor de campo local Paltas: Catacocha, con frecuentes viajes a las zonas de actuación del proyecto en el cantón Paltas (provincia Loja).

Idioma: Español e idioma local.

#4. Borrador de Términos de Referencia: Consultor Nacional – Especialista en políticas públicas de agrobiodiversidad

Bajo la supervisión general del Comité Técnico del proyecto y la supervisión directa del Coordinador del proyecto, el Especialista en políticas públicas de agrobiodiversidad se encargará de liderar, supervisar y coordinar todas las actividades del proyecto orientadas a la incorporación del uso sostenible y la conservación de la agrobiodiversidad en las políticas públicas y su implementación. En particular se encargará de las siguientes tareas principales:

1. Realizar un análisis de las posibles opciones de sistemas de incentivos para el uso y la conservación de la agrobiodiversidad, que incluya: una revisión de las regulaciones legales existentes; normativas vigentes en otros países en esta materia; programas exitosos de incentivos para la conservación *in situ*; y análisis de la estructura funcional de las organizaciones involucradas, entre otros elementos.
2. Elaborar una propuesta de política pública a nivel nacional, basada en el análisis anterior, enfocada en la conservación y el uso sostenible de la agrobiodiversidad, que incluya medidas específicas sobre (i) conservación *in situ* y *ex situ*; (ii) promoción, uso y consumo de la agrobiodiversidad; (iii) fortalecimiento institucional y humano; y (iv) participación de los agricultores en las políticas relacionadas con la agrobiodiversidad.
3. Elaborar una estrategia de monitoreo permanente a las propuestas de política pública que se presenten para discusión y tengan relación con el tema de agrobiodiversidad.
4. Realizar un análisis de la aplicación en Ecuador de los Derechos del Agricultor, tal como se definen en el TIRFAA, que incluya: una revisión de la legislación nacional, programas y proyectos destinados a la agricultura familiar campesina, identificación de iniciativas exitosas en el país, y medidas legales e iniciativas internacionales.
5. Elaborar, en estrecha colaboración con Heifer y el MAGAP, una propuesta de programa para aplicar los Derechos del Agricultor en el Ecuador en el contexto del TIRFAA (artículos 9, 5.1 c, 5.1 d, 6.a, 6.b, 6.c.) y en concordancia con la CPE, la LORSA y el Plan Nacional del Buen Vivir 2013-2017 en lo relativo a soberanía alimentaria y agrobiodiversidad.
6. Colaborar con el Coordinador del proyecto en las actividades de planificación, seguimiento, evaluación y presentación de informes, según proceda.

Perfil profesional: Titulado universitario en agronomía, ciencias ambientales, leyes, ciencias políticas o similar, con un mínimo de 5 años de experiencia de trabajo en legislación sobre recursos naturales, biodiversidad y agrobiodiversidad.

Duración: 18 meses.

Lugar de destino: Quito.

Idioma: Español.

#5. Borrador de Términos de Referencia: Consultor Nacional – Especialista en agrobiodiversidad – Preparación del Plan de Acción Nacional

Bajo la supervisión del Coordinador del Proyecto y en estrecha colaboración con el Especialista en políticas públicas de agrobiodiversidad y las instituciones ejecutoras del proyecto, el Especialista se encargará de la elaboración de una propuesta de Plan de acción nacional para la implementación del componente de agrobiodiversidad de la Estrategia Nacional de Biodiversidad. En particular se encargará de las siguientes tareas principales:

1. Levantar información y recomendaciones de todas las instituciones nacionales y provinciales participantes en la preparación e implementación del componente de agrobiodiversidad de la Estrategia Nacional de Biodiversidad, sobre el contenido, estructura y prioridades del Plan de Acción Nacional.
2. Participar en los talleres regionales con el propósito de recoger insumos para el Plan de Acción Nacional.
3. Preparar, con la información recogida, un primer borrador de Plan de Acción Nacional, para la revisión del Comité Técnico del Proyecto. El Plan de Acción Nacional deberá incluir unas líneas de acción prioritarias con responsabilidades asignadas a los participantes, un plan de trabajo con objetivos y metas intermedias, un plan de financiación y un mecanismo de monitoreo y evaluación final de los avances.
4. Preparar, con los comentarios y contribuciones del Comité Técnico del Proyecto, un borrador de Plan de Acción Nacional.

Perfil profesional: Titulado universitario preferiblemente en agronomía, ciencias ambientales o similar, con un mínimo de 5 años de experiencia de trabajo en políticas públicas sobre recursos naturales y agro-biodiversidad.

Duración: 2 meses.

Lugar de destino: Quito, con frecuentes viajes a las zonas de actuación del proyecto.

Idioma: Español.

#6. Borrador de Términos de Referencia: Consultor Nacional/Contrato –Elaboración y validación en campo de una metodología de valoración de la agrobiodiversidad
Objetos del contrato:

1. Elaborar una metodología de valoración de la diversidad en los sistemas campesinos biodiversos a fin de establecer un conjunto de indicadores cuantitativos y cualitativos. El propósito del estudio es que la información recogida mediante los indicadores establecidos sirva para fortalecer la propuesta de políticas públicas. El estudio se realizará como apoyo al trabajo que realiza el MAE para elaborar la Estrategia Nacional de Biodiversidad, y se desarrollará de manera coordinada entre el MAE y el proyecto. El estudio presentará indicadores en los siguientes ámbitos: agrícola (prácticas agrícolas, uso del suelo, agrobiodiversidad, producción); socioeconómicos (número de personas que trabajan en la finca, ingresos, tenencia de la tierra, riego, organización social); y seguridad alimentaria (autoconsumo, cultura alimentaria, porcentaje del ingreso destinado a la alimentación, ventas en los mercados locales).
2. Validar la metodología elaborada a través de un estudio de campo realizado en la provincia de Chimborazo, con el fin de presentar los datos obtenidos a tomadores de decisiones, instituciones públicas, organizaciones de la sociedad civil y agencias de cooperación internacional.

Duración: 2 meses (1 mes financiado por GEF, 1 mes financiado por Heifer)

#7. Borrador de Términos de Referencia: Consultor Nacional – Facilitador de procesos participativos para la elaboración de políticas provinciales sobre agrobiodiversidad

Bajo la supervisión general del Coordinador del proyecto y en estrecha colaboración con el personal de Heifer, el Facilitador de procesos participativos para la elaboración de políticas provinciales sobre agrobiodiversidad se encargará de recoger y sistematizar los insumos y contribuciones de las agricultores y las organizaciones locales y campesinas para la elaboración de propuestas de ordenanzas provinciales sobre conservación y uso de la agrobiodiversidad y para la integración de la valoración de la agrobiodiversidad en los PDOT. En particular se encargará de las siguientes tareas principales:

1. Asesorar en la definición de la metodología participativa para la elaboración de propuestas.
2. Coordinar y facilitar la realización de 12 talleres a nivel cantonal con el propósito de recoger insumos para las propuestas de ordenanza y para los PDOT.
3. Sistematizar la información recogida en los talleres.

Perfil profesional: Titulado universitario en agronomía, ciencias ambientales, leyes, ciencias políticas o similar, con un mínimo de 5 años de experiencia de trabajo en procesos de participación de comunidades rurales y sus organizaciones en legislación y políticas públicas sobre recursos naturales, biodiversidad y agrobiodiversidad.

Duración: 9 meses.

Lugar de destino: Quito, con frecuentes viajes a las zonas de actuación del proyecto.

Idioma: Español.

#8. Borrador de Términos de Referencia: Consultor Nacional – Técnico asistente en conservación de recursos fitogenéticos (3)

Bajo la supervisión general del Coordinador del proyecto y en estrecha colaboración con el personal de INIAP, el Técnico Asistente en conservación de recursos fitogenéticos se encargará de apoyar las actividades del proyecto de conservación *ex situ* y caracterización de la agrobiodiversidad. En particular se encargará de las siguientes tareas principales:

1. Apoyar la planificación de las misiones de colecta de germoplasma, incluyendo la identificación de zonas a cubrir, rutas de colecta, principales cultivos a colectar, recursos necesarios y aspectos logísticos, entre otros.
2. Participar activamente en las misiones de colecta, colaborando en la recogida de materiales en condiciones de seguridad y viabilidad, y en el registro de los datos de los materiales y de los conocimientos tradicionales asociados a los mismos.
3. Apoyar las actividades de acondicionamiento, estudios de viabilidad y multiplicación (cuando proceda) de los materiales colectados para su conservación a medio y largo plazo.
4. Colaborar en la caracterización morfológica, agronómica y molecular de los materiales recogidos.
5. Elaborar un informe final de las actividades realizadas y resultados obtenidos.

Perfil profesional: Estudiante universitario de agronomía, biología, biotecnología o carreras similares.

Duración: 12 meses.

Lugar de destino: Banco Nacional de Germoplasma de INIAP (Estación Experimental Santa Catalina, cantón Mejía, Pichincha), con viajes a las zonas de actuación del proyecto.

Idioma: Español.

#9. Borrador de Términos de Referencia: Consultor Nacional – Especialista en agrobiodiversidad para la elaboración de inventarios locales y registros comunitarios (3)
Bajo la supervisión general del Coordinador del proyecto y en estrecha colaboración con INIAP, el Coordinador Técnico Zonal y los promotores de campo locales, se encargará de liderar la elaboración de un inventario local de la agrobiodiversidad en su zona de actuación, y de registros comunitarios de la diversidad de cultivos en fincas familiares. En particular se encargará de las siguientes tareas principales:

1. Desarrollar las metodologías participativas de elaboración de los inventarios locales y los registros comunitarios.
2. Coordinar la selección de los informantes clave de los diferentes grupos y organizaciones de cada zona.
3. Liderar la organización de talleres participativos con los informantes clave para el levantamiento de la información.
4. Realizar visitas técnicas a las parcelas clave para el levantamiento de la información.
5. Compilar y analizar la información recogida y elaborar el inventario local de la agrobiodiversidad, identificando variedades únicas, raras y comunes de las especies cultivadas y zonas de alta diversidad (microcentros o "hotspots").
6. Coordinar la implementación de registros comunitarios, incluyendo la conformación de comités para el manejo de los registros y la definición de acciones de conservación de los recursos de la comunidad.
7. Liderar la capacitación de las comunidades en la aplicación de registros comunitarios.

Perfil profesional: Titulado universitario en agronomía, biología o carreras afines, con un mínimo de 5 años de experiencia en proyectos de manejo y conservación de la agrobiodiversidad en comunidades rurales de las regiones alto andinas de Ecuador, especialmente en comunidades indígenas.

Duración: 6 meses.

Lugar de destino:

- Especialista en agrobiodiversidad Zona Norte: Ibarra, con frecuentes viajes a las zonas de actuación del proyecto (cantones Cotacachi y Otavalo en la provincia de Imbabura, parroquia La Esperanza en la provincia de Pichincha).
- Especialista en agrobiodiversidad Zona Centro: Riobamba, con frecuentes viajes a las zonas de actuación del proyecto (cantones Guamote y Colta, provincia de Chimborazo).
- Especialista en agrobiodiversidad Zona Sur: Loja, con frecuentes viajes a las zonas de actuación del proyecto (cantones Saraguro y Paltas, provincia de Loja).

Idioma: Español.

#10. Borrador de Términos de Referencia: Consultor Nacional – Especialista en garantía de sistemas agroecológicos diversos

Bajo la supervisión general del Coordinador del proyecto y en estrecha colaboración con la Fundación Heifer Ecuador, el Coordinador Técnico Zonal y los promotores de campo locales, se encargará de coordinar los procesos de implementación de los sistemas participativos de garantía (SPG) de la producción agroecológica y agrodiversa en las zonas de actuación del proyecto, y de supervisar la aplicación de los SPG en las parcelas participantes. La consultoría estará dividida en dos fases, cada una de las cuales incluirá las siguientes tareas principales:

a) Al inicio del proyecto (12 meses)

1. Colaborar activamente en el desarrollo e implementación del SPG de la producción agroecológica y agrodiversa.
2. Elaborar, mediante herramientas participativas, criterios para la acreditación de parcelas con buenas prácticas de conservación y manejo de la agrobiodiversidad.
3. Asesorar en la conformación de la estructura del SPG y los mecanismos de acreditación.
4. Coordinar las acciones de capacitación de las organizaciones locales e indígenas en la implementación y manejo de los SPG.
5. Supervisar el proceso de aplicación de los SPG en todas sus fases.
6. Asesorar en la definición de un sello que identifique a los productos procedentes de las parcelas con buenas prácticas de conservación y manejo de la agrobiodiversidad.

b) Al final del proyecto (3 meses)

7. Participar activamente en el taller de evaluación de la implementación de los SPG en las zonas del proyecto, para validar o ajustar los criterios establecidos al inicio del proyecto.
8. Elaborar, en base a las experiencias del proyecto y a la evaluación realizada, una propuesta de sello nacional para productos procedentes de parcelas con buenas prácticas de conservación de agrobiodiversidad.

Perfil profesional: Titulado universitario en agronomía, biología o carreras afines, con un mínimo de 5 años de experiencia en proyectos de manejo y conservación de la agrobiodiversidad en comunidades rurales de las regiones alto andinas de Ecuador, especialmente en comunidades indígenas y en sistemas participativos de garantía.

Duración: 15 meses, en dos fases (12 meses al inicio del proyecto, 3 meses al final del proyecto).

Lugar de destino: Quito, con frecuentes viajes a las zonas de actuación del proyecto.

Idioma: Español.

#11. Borrador de Términos de Referencia: Consultor Nacional – Especialista en bases de datos de registro de parcelas certificadas

Bajo la supervisión del Coordinador del proyecto y en estrecha colaboración con la Fundación Heifer Ecuador y el Coordinador Técnico Zonal, el Especialista en bases de datos de registro de parcelas certificadas se encargará de la puesta en marcha de una base de datos para el sistema de registro de las parcelas certificadas. En particular se encargará de las siguientes tareas principales:

1. Asesorar en la definición de los requisitos y funcionalidades de una base de datos para para el registro de las parcelas certificadas bajo los Sistemas Participativos de Garantía del proyecto, en función de las capacidades técnicas disponibles y las capacidades de los futuros usuarios en manejo de bases de datos.
2. Desarrollar la base de datos de registro de parcelas certificadas y la aplicación informática de acceso a la misma, así como los mecanismos de mantenimiento y copias de seguridad.
3. Incorporar en la base de datos la información disponible sobre parcelas certificadas.
4. Proporcionar la capacitación necesaria para el manejo de la base de datos de registro de parcelas certificadas a los usuarios de la misma, incluyendo la elaboración de documentación de apoyo (manual de usuario) para el manejo de la base de datos.

Perfil profesional: Titulado universitario en informática o similar, con un mínimo de 5 años de experiencia en desarrollo de bases de datos para su utilización por comunidades rurales.

Duración: 6 meses.

Lugar de destino: Quito, con frecuentes viajes a las zonas de actuación del proyecto.

Idioma: Español.

#12. Borrador de Términos de Referencia: Consultor Nacional – Especialista en agronegocios (ferias de productos agroecológicos)

Bajo la supervisión del Coordinador del proyecto y en estrecha colaboración con la Fundación Heifer Ecuador y los Coordinadores Técnicos Zonales, el Especialista en agronegocios (ferias de productos agroecológicos) se encargará de la elaboración de un Plan de mercadeo para el fortalecimiento de la comercialización en ferias agroecológicas beneficiarias del proyecto. El documento del Plan de mercadeo incluirá:

1. Un estudio de evaluación de la situación actual de las siete ferias semanales de productos agroecológicos (Catacocha, Saraguro, Colta, La Esperanza, Paltas, Guamote, Cotacachi y Otavalo), incluyendo el análisis de sus debilidades, fortalezas, amenazas y oportunidades, y los factores de éxito.
2. Un sondeo de mercado participativo en las ciudades donde se realizan las ferias agroecológicas para identificar los nichos de mercado o potenciales oportunidades de ampliación de negocios para los productos de la agrobiodiversidad que se venden en las ferias agroecológicas.
3. Un estudio de la demanda actual y potencial de productos agroecológicos existente en centros urbanos cercanos a las ferias (Quito, Cajabamba, Riobamba, Loja).
4. Unos objetivos de mercadeo a corto y largo plazo de las ferias, en línea con las metas de resultados y productos establecidos en el documento de proyecto.
5. Una estrategia de mercadeo, que incluya la imagen corporativa comercial para mejorar la presentación de las ferias agroecológicas y los mecanismos de promoción de ventas, entre otros.
6. Un programa de implementación del Plan que incluya los requisitos necesarios y la asignación de responsabilidades.

Perfil profesional: Titulado universitario en marketing, agronegocios o similar, con un mínimo de 5 años de experiencia en mercadeo y comercialización de productos agropecuarios en regiones alto andinas de Ecuador, y conocimientos de los mercados agrícolas locales y sus redes comerciales (ferias agroecológicas, compras públicas).

Duración: 6 meses.

Idioma: Español.

#13. Borrador de Términos de Referencia: Consultor Nacional – Especialista en manejo post-cosecha de productos agroecológicos

Bajo la supervisión del Coordinador del proyecto y en estrecha colaboración con la Fundación Heifer Ecuador y los Coordinadores Técnicos Zonales, el Especialista en manejo post-cosecha de productos agroecológicos se encargará del asesoramiento técnico y la capacitación en temas de manejo post-cosecha a los productores-vendedores participantes en las 7 ferias agroecológicas beneficiarias del proyecto. En particular se encargará de las siguientes tareas principales:

1. Realizar un diagnóstico de los procesos actuales de manejo post-cosecha de productos agroecológicos para su venta en las ferias agroecológicas, incluyendo según sea necesario los temas de secado de granos y semillas, conservación de frutas y hortalizas, almacenamiento, empacado y transporte.
2. Diseñar, en base a las necesidades detectadas en el diagnóstico y a los intereses expresados por los beneficiarios y las organizaciones comunitarias, un programa de capacitación en temas de manejo post-cosecha de productos agroecológicos.
3. Implementar el programa de capacitación mediante talleres de capacitación dirigidos a los productores-vendedores de las 7 ferias.
4. Elaborar y presentar informes técnicos de los procesos de capacitación teórica y práctica en los temas desarrollados.

Perfil profesional: Titulado universitario en agronomía o similar, con un mínimo de 5 años de experiencia en manejo técnico post-cosecha de productos agrícolas y en capacitación en temas de manejo post-cosecha a agricultores campesinos en regiones alto andinas de Ecuador.

Duración: 1 mes.

Idioma: Español.

#14. Borrador de Términos de Referencia: Consultor Nacional – Especialista en agronegocios (agroindustrias comunitarias)

Bajo la supervisión del Coordinador del proyecto y en estrecha colaboración con la Fundación Heifer Ecuador y los Coordinadores Técnicos Zonales, el Especialista en agronegocios (agroindustrias comunitarias) se encargará de la elaboración de un Plan de mercadeo para el fortalecimiento de las 4 microempresas comunitarias de procesamiento de alimentos beneficiarias del proyecto y vinculadas a las organizaciones UCOCP, CEDEIN, CORPOPURUHA y UNORCAC y de la formación de las microempresas en gestión de empresas y comercialización. En particular se encargará de las siguientes tareas principales:

1. Elaborar y presentar un documento de Plan de mercadeo que incluirá:
   a. Un estudio de evaluación de la situación actual de las 4 microempresas comunitarias y sus procesos productivos, incluyendo el análisis de sus debilidades, fortalezas, amenazas y oportunidades, y los factores de éxito.
   b. Un sondeo de mercado participativo en las ciudades donde se realizan las ferias agroecológicas para identificar los nichos de mercado o potenciales oportunidades de ampliación de negocios para los productos elaborados por las microempresas que se venden en las ferias agroecológicas.
   c. Un estudio de la demanda actual y potencial existente en centros urbanos cercanos a las ferias (Quito, Cajabamba, Riobamba, Loja) de productos elaborados en microempresas comunitarias a partir de productos de origen agroecológico y agrodiverso.
   d. Unos objetivos de mercadeo a corto y largo plazo de las microempresas y una estrategia de mercadeo.
   e. Un programa de implementación del Plan que incluya los requisitos necesarios y la asignación de responsabilidades.
2. Proporcionar capacitación a los gerentes de las microempresas comunitarias en gestión de empresas y comercialización, mediante talleres de capacitación.
3. Elaborar y presentar un informe final de las actividades de capacitación.

Perfil profesional: Titulado universitario en economía, administración de empresas, agronegocios o similar, con un mínimo de 5 años de experiencia en mercadeo, comercialización y gestión empresarial a nivel de organizaciones de productores o microempresas asociativas rurales en regiones alto andinas de Ecuador.

Duración: 6 meses.

Idioma: Español.

#15. Borrador de Términos de Referencia: Consultor Nacional – Especialista en procesamiento de alimentos en agroindustrias comunitarias

Bajo la supervisión del Coordinador del proyecto y en estrecha colaboración con la Fundación Heifer Ecuador y los Coordinadores Técnicos Zonales, el Especialista en procesamiento de alimentos en agroindustrias comunitarias se encargará del asesoramiento técnico y la capacitación en temas de procesamiento industrial de alimentos a las 4 microempresas comunitarias beneficiarias del proyecto y vinculadas a las organizaciones UCOCP, CEDEIN, CORPOPURUHA y UNORCAC. En particular se encargará de las siguientes tareas principales:

1. Realizar un diagnóstico de los procesos actuales de industrialización de las microempresas asociativas, con identificación de los puntos críticos y mapeo de los flujos productivos.
- Diseñar, en base a las necesidades detectadas en el diagnóstico y a los intereses expresados por los beneficiarios y las organizaciones comunitarias, un programa de capacitación en temas de industrialización de los productos de la agrobiodiversidad.
2. Implementar el programa de capacitación mediante talleres de capacitación en temas de industrialización de los productos de la agrobiodiversidad en las 4 microempresas.
3. Elaborar y presentar informes sobre los talleres de capacitación.
4. Realizar visitas de asistencia técnica a las 4 microempresas para el desarrollo de nuevos productos que incorporen al menos 10 productos de la agrobiodiversidad.
5. Asesorar a las microempresas en el proceso para la implementación de las normas BPM y obtención de registros sanitarios en las plantas de procesamiento.
6. Elaborar y presentar informes técnicos de los procesos de capacitación teórica y práctica en los temas desarrollados.

Perfil profesional: Titulado universitario en industrias agrarias, tecnología de alimentos o similar, con un mínimo de 5 años de experiencia en procesamiento de alimentos e industrialización de productos agroecológicos y en capacitación en temas de industrialización de los productos agrícolas con organizaciones de productores o microempresas asociativas en regiones alto andinas de Ecuador.

Duración: 4 meses.

Lugar de destino: Zonas de actuación del proyecto (cantones Paltas, Colta, Guamote y Cotacachi).

Idioma: Español.

#16. Borrador de Términos de Referencia: Consultor Nacional – Especialista en planes de negocios de agroturismo

Bajo la supervisión del Coordinador del proyecto y en estrecha colaboración con el Coordinador Técnico Zonal, las instituciones ejecutoras del proyecto y las organizaciones locales e indígenas de las zonas de actuación (CEDEIN en Chimborazo, UCOCP en Loja), el Especialista en planes de negocios de agroturismo se encargará del diseño de rutas agroturísticas en Chimborazo y Loja. En particular se encargará de las siguientes tareas principales:

1. Realizar un análisis de la oferta agroturística en las provincias de Loja y Chimborazo.
2. Realizar un análisis de la demanda turística con enfoque agroturístico en las provincias de Loja y Chimborazo.
3. Realizar un análisis de fortalezas, oportunidades, debilidades y amenazas para el establecimiento de rutas agroturísticas en Loja y Chimborazo.
4. Elaborar estrategias de marketing para dos rutas agroturísticas en Loja y Chimborazo.
5. Elaborar planes de marketing específicamente diseñados para alcanzar los objetivos de las rutas agroturísticas en Loja y Chimborazo.

Perfil profesional: Titulado universitario en turismo, ecoturismo o similar, con un mínimo de 5 años de experiencia en diseño de modelo de gestión, planes de negocios turísticos, desarrollo de productos turísticos sostenibles o agroturismo.

Duración: 4 meses.

Lugar de destino: Loja y Chimborazo.

Idioma: Español.

#17. Borrador de Términos de Referencia: Consultor Nacional – Especialista en educación para la agrobiodiversidad

Bajo la supervisión general del Comité Técnico del proyecto y la supervisión directa del Coordinador del proyecto, el Especialista en educación para la agrobiodiversidad se encargará de liderar, supervisar y coordinar todas las actividades del proyecto orientadas a la educación y sensibilización sobre agrobiodiversidad. En particular se encargará de las siguientes tareas principales:

1. Realizar un plan de acción para desarrollar las actividades de educación en las 4 provincias del proyecto.
2. Monitorear y supervisar las actividades incluidas en el plan de acción para realizar las coordinaciones, procedimientos y convocatorias necesarias para ejecutar las actividades en campo.
3. Facilitar los talleres con los contenidos y materiales necesarios para cada zona.
4. Coordinar y realizar el seguimiento a las aplicaciones en los centros educativos.
5. Coordinar y facilitar los eventos de socialización.
6. Recopilar y sistematizar la información generada en cada una de las actividades anteriores.
7. Organizar y validar la información recopilada para incorporarla en las publicaciones.

Perfil profesional: Titulado universitario en educación o similar, con un mínimo de 5 años de experiencia en educación ambiental en regiones alto andinas de Ecuador.

Duración: 20 meses.

Lugar de destino: Quito, con frecuentes viajes a las zonas de actuación del proyecto.

Idioma: Español.

#18. Borrador de Términos de Referencia: Consultor Nacional – Diseñador de Guía metodológica para educación en agrobiodiversidad

Bajo la supervisión directa del Coordinador del proyecto y en estrecha colaboración con el Especialista en educación para la agrobiodiversidad, el consultor se encargará de la elaboración de una Guía metodológica para educación en agrobiodiversidad. En particular se encargará de las siguientes tareas principales:

1. Realizar el diseño y diagramación de un primer borrador de Guía metodológica para educación en agrobiodiversidad, en colaboración con el Dibujante de la Guía metodológica. Entre las secciones de la Guía se incluirán: (i) conocimientos técnicos apoyados con dibujos, fotos, gráficos, etc. ("Acceso al conocimiento"); (ii) ejercicios y actividades para que los estudiantes relacionen el conocimiento teórico con las prácticas cotidianas tanto en el ámbito rural como en el urbano ("Aplicación práctica del conocimiento"); y (iii) actividades de socialización y difusión de los resultados a la sociedad ("Socialización del conocimiento y la sensibilización adquirida").
2. Revisar y ajustar el borrador de Guía metodológica de acuerdo a los comentarios recibidos, y presentar una versión final.

Perfil profesional: Formación profesional en Diseño Gráfico, con experiencia en producción de materiales de educación ambiental en regiones alto andinas de Ecuador.

Duración: 6 meses.

Idioma: Español.

#19. Borrador de Términos de Referencia: Consultor Nacional – Dibujante de Guía metodológica para educación en agrobiodiversidad

Bajo la supervisión directa del Coordinador del proyecto y en estrecha colaboración con el Especialista en educación para la agrobiodiversidad y el Diseñador de la Guía metodológica, el consultor se encargará de la elaboración de dibujos para ilustrar la Guía metodológica para educación en agrobiodiversidad. En particular se encargará de las siguientes tareas principales:

1. Realizar borradores de dibujos para ilustrar los contenidos de la Guía metodológica para educación en agrobiodiversidad, en colaboración con el Dibujante de la Guía metodológica.
2. Revisar y ajustar los borradores de dibujos de acuerdo a los comentarios recibidos, y presentar una versión final.

Perfil profesional: Formación profesional en artes visuales y aplicadas, con experiencia en producción de dibujos de educación ambiental en regiones alto andinas de Ecuador.

Duración: 2 meses.

Idioma: Español.

#20. Borrador de Términos de Referencia: Consultor Nacional – Especialista en comunicación social – Campaña de promoción sobre agrobiodiversidad

Bajo la supervisión directa del Coordinador del proyecto y en estrecha colaboración con el Especialista en educación para la agrobiodiversidad, el consultor se encargará del diseño e implementación de una campaña de promoción sobre la importancia de la seguridad y soberanía alimentaria y de los beneficios de la conservación y uso de la agrobiodiversidad, dirigida a consumidores. En particular se encargará de las siguientes tareas principales:

1. Diseñar una campaña de promoción sobre la importancia de la seguridad y soberanía alimentaria y de los beneficios de la conservación y uso de la agrobiodiversidad incluyendo los fines de la campaña, el público objetivo, los mensajes a transmitir y el plan de publicidad.
2. Coordinar la implementación de las actividades de la campaña, incluyendo jornadas de "casas abiertas" en centros educativos y ferias de educación en agrobiodiversidad en plaza pública.
3. Elaborar un informe de la campaña de promoción.

Perfil profesional: Profesional universitario en comunicación social, educación ambiental o similar, con experiencia en campañas de educación ambiental en regiones alto andinas de Ecuador.

Duración: 4 meses.

Idioma: Español.

#21. Borrador de Términos de Referencia: Contrato – Campaña radial sobre los Derechos del Agricultor

Objetivo de la campaña radial: El propósito de la campaña radial es que los agricultores campesinos conozcan los Derechos del Agricultor tal como se definen en el TIRFAA en cuanto a su participación en la toma de decisiones sobre la conservación y utilización de la agrobiodiversidad, la reproducción del conocimiento local y el intercambio de semillas, en el contexto de la soberanía alimentaria.

El contrato incluirá:

1. El diseño de la campaña radial y sus contenidos se realizará en estrecha colaboración con la Fundación Heifer Ecuador y el Coordinador del Proyecto.
2. Producción de cuñas radiales.
3. Contrato de espacios publicitarios en los medios de comunicación (radio) de acuerdo al plan acordado con la Fundación Heifer y el Coordinador del proyecto.

Perfil del contratista: empresa publicitaria con experiencia en comunicación social en ámbitos rurales.

#22. Borrador de Términos de Referencia: Contrato – Apoyo a rutas agroecológicas

Objetivo de la actividad: El propósito de la actividad es el apoyo a las instituciones ejecutoras el Proyecto (FAO, INIAP y HEIFER) y las organizaciones campesinas e indígenas participantes en el proyecto (CEDEIN en Chimborazo y UCOCP en Loja) en la identificación y diseño de rutas agroecológicas y la capacitación a los agricultores involucrados en las rutas.

El contrato incluirá:

1. Identificación y georeferenciación de recursos por rutas en Loja y Chimborazo, que incluye: (i) inventario y jerarquización de todos los atractivos turísticos existentes en las Rutas utilizando la Metodología del MINTUR; (ii) identificación de las instalaciones y servicios turísticos ofrecidos a lo largo de la Ruta; (iii) identificación y relevamiento de productos turísticos integrados existentes en la Ruta; (iv) identificación y relevamiento de los actores turísticos actuales y potenciales en torno a la Ruta; (v) reconocimiento de la calidad y estado de mantención de las vías y medición de distancias entre localidades, hitos y recursos turísticos; y (vi) georeferenciación y toma de fotografías de todos los recursos antes identificados.
2. Evaluación y jerarquización de Rutas propuestas, mediante la aplicación de una matriz estructurada en base a indicadores que miden la aptitud agroturistica de cada Ruta para consolidarse como una oferta sólida y atractiva, incluyendo el detalle de requerimientos y presupuestos para la puesta el valor de las Rutas.
3. Definir y estructurar las Rutas Agroturísticas, determinando una ruta en Loja y una ruta en Chimborazo para su valoración y operación. Cada ruta deberá ser georeferenciada y debe contener: nombre de la Ruta, actores involucrados, recursos necesarios, actividades propuestas, restricciones actuales, acciones para la puesta en valor, responsable directo, e itinerarios posibles.
4. Diseñar, en base a las necesidades detectadas y a los intereses expresados por los beneficiarios y las organizaciones comunitarias, un programa de capacitación en temas relacionados con las rutas agroturísticas, incluyendo gastronomía local, servicio al cliente, elaboración de artesanías, y otros.
5. Implementar el programa de capacitación mediante talleres de capacitación.
6. Elaborar y presentar informes sobre los talleres de capacitación.

Perfil del contratista: empresa de desarrollo turístico con experiencia en agroturismo y ecoturismo.

APPENDIX 7: PARTICIPATORY GUARANTEE SYSTEMS

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