



REQUEST FOR CEO APPROVAL

PROJECT TYPE: Medium-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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PART I: PROJECT INFORMATION

Project Title: Conservation and sustainable use of agricultural biodiversity to improve regulating and supporting ecosystem services in agriculture production in Uzbekistan			
Country(ies):	Uzbekistan	GEF Project ID:	5403
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01055
Other Executing Partner(s):	State Committee of Nature Protection of Uzbekistan Republic; Ministry of Agriculture of Uzbekistan Republic; Department of Forestry, Ministry of Agriculture and Water Resources of the Republic of Uzbekistan; Institute of Genetics and Plant Experimental Biology of the Academy of Sciences of the Republic of Uzbekistan; Bioversity International, Regional office for Central Asia, Tashkent	Submission Date:	July 15, 2015
GEF Focal Area (s):	Biodiversity	Project Duration(Months)	36
Name of Parent Program (if applicable):	NA	Project Agency Fee (\$):	117,405
	<ul style="list-style-type: none"> ➤ For SFM/REDD+ <input type="checkbox"/> ➤ For SGP <input type="checkbox"/> ➤ For PPP <input type="checkbox"/> 		

A. FOCAL AREA STRATEGY FRAMEWORK

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount (\$)	Cofinancing (\$)
BD-2	<p>Outcome 2.1 Increase in sustainable managed landscapes and seascapes that integrate biodiversity conservation</p> <p>Outcome 2.2 Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks</p>	<p>Output 1.1 Expanded use of fruit tree varietal (intra-specific) diversity in adverse and degraded landscapes to improve water use efficiency, reduce pest and disease damage, and increase pollination services.</p> <p>Output 1.2 Land management plans for water-scarce and degraded land, which include the use fruit tree varietal diversity, are developed and implemented and farming</p>	GEF TF	1,024,845	3,431,520

		<p>communities, extension and public government organizations have the capacity and leadership abilities to carry them out</p> <p>Output 3.1 Options for national access and benefit sharing (ABS) laws identified to support the promotion of use of agro-biodiversity and ecosystem services within agricultural production systems</p>			
BD-4	Outcome 4.1 Legal and regulatory frameworks, and administrative procedures established that enable access to genetic resources and benefit sharing in accordance with the CBD provisions	<p>Output 3.2 Recommendations and strategies drafted that promote diversified fruit tree biodiversity in food security, rural development and land management policies at national (Biodiversity strategy) and international (Nagoya Protocol) levels</p> <p>Output 2.1 Local fruit tree functional varietal diversity is available and accessible to farmers to use in their production systems</p>	GEF TF	211,000	718,480
Total project costs				1,235,845	4,150,000

B. PROJECT FRAMEWORK

Project Objective: To mainstream the conservation and use of fruit tree biodiversity to enhance ecosystem services and thereby improve the resiliency of traditional agricultural production systems in water-scarce environments..						
Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount (\$)	Confirmed Cofinancing (\$)
COMPONENT 1. Mainstreaming mechanisms that use agricultural biodiversity to enhance ecosystem services in water scarce environments	TA	OUTCOME 1 Area devoted to sustainably managed fruit tree diversity is increased and ecosystem services are enhanced through greater use of biodiversity in	<p>Output 1.1 Expanded use of fruit tree varietal (intra-specific) diversity in adverse and degrade landscapes to improve water use efficiency, reduce pest and disease damage, and increase pollination levels.</p> <p>Output 1.2 Land management plans for</p>	GEF TF	512,495	1,360,000

		water-scarce agricultural production systems.	water-scarce and degraded land, which include the use of fruit tree varietal diversity, are developed and implemented and farming communities, extension and public government organizations have the capacity and leadership abilities to carry them out.			
COMPONENT 2. Increasing the use of fruit tree biodiversity that enhances ecosystem regulating services in water-scarce environments.		OUTCOME 2. Farmers benefit from having increased availability of locally adapted materials to improve ecosystem resilience through better regulation of pollination service levels, diseases and arthropod pests, land degradation, and water use efficiency.	Output 2.1 Local fruit tree functional varietal diversity is available and accessible to farmers to use in their production systems. Output 2.2 Farmer information systems and market information mechanisms for growing local fruit tree varietal diversity are in place.	GEF TF	300,000	1,335,966
COMPONENT 3. Promoting and enabling environment for access and benefit-sharing mechanisms that recognize and enhance the custodians of ecosystem services.		OUTCOME 3. Options for national access and benefit sharing laws identified to support the promotion of ecosystem services within agricultural production systems.	Output 3.1 Options for national access and benefit sharing (ABS) laws identified to support the promotion of ecosystem services within agricultural production systems. Output 3.2 Recommendations and strategies drafted that promote diversified fruit tree biodiversity in food security, rural development and land management policies at national (Biodiversity strategy) and international (Nagoya Protocol) levels.	GEF TF	211,000	618,534
4. Project monitoring and evaluation and		Project implementation based on results	4.1 Project monitoring system operating providing systematic	GEF TF	100,000	272,000

knowledge management.		based management and application of project lessons learned in future operations facilitated.	information on progress in meeting project outcome and output targets. 4.2 Midterm and final evaluation conducted.			
Subtotal			GEF TF	1,123,495	3,586,500	
Project Management			GEF TF	112,350	563,500	
Total project costs				1,235,845	4,150,000	

C. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME (\$)

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
National Government	Uzbek Research Institute of Horticulture	Grant	268,646
National Government	Uzbek Research Institute of Horticulture	In-kind	574,421
National Government	Uzbek Republican Research and Production Centre	Grant	260,934
National Government	Uzbek Republican Research and Production Centre	In-kind	296,466
National Government	Tashkent State Agrarian University	Grant	43,800
National Government	Tashkent State Agrarian University	In-kind	81,200
National Government	Uzbek Research institute of Plant Industry	Grant	411,620
National Government	Uzbek Research institute of Plant Industry	In-kind	259,176
National Government	Institute of Genetics and Plant Experimental Biology	Grant	15,000
National Government	Institute of Genetics and Plant Experimental Biology	In-kind	226,442
Private Sector	Albatros Oil Service	In-kind	100,000
NGO	Center for Agro Information-Innovation, Uzbekistan	In-kind	562,295
Other Multilateral Agency	Bioversity International	Grant	320,000
Other Multilateral Agency	Bioversity International	In-kind	580,000
GEF Agency	UNEP	In-kind	150,000
Total Co-financing			4,150,000

D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in \$)		
				Grant Amount (a)	Agency Fee (b)	Total c=a+b
UNEP	GEFTF	Biodiversity	Uzbekistan	1,235,845	117,405	1,353,250
Total Grant Resources				1,235,845	117,405	1,353,250

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount (\$)	Co-financing (\$)	Project Total (\$)
International Consultants	18,000	5,000	23,000
National/Local Consultants	57,000	15,000	72,000

G. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF

A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.

No changes from the PIF stage. As stated in the Project Identification Form, there are several national plans and strategies to which the project would be aligned. In addition, the proposed project is in line with Uzbekistan's contribution to the Aichi Targets adopted at the 10th Conference of the Parties of the CBD. Most directly it will contribute to the Aichi Target 7 on sustainable management of areas under agriculture and to the maintenance of the diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically, as well culturally valuable, species (Target 13). However, the work of the project will also make material contributions to other targets through integrating biodiversity values into national and local development and poverty reduction strategies (Target 2), seeking to reduce pollution from excess nutrients (Target 8) and improving the provision of essential services from ecosystems (Target 14) of global significance.

CBD Aichi 2020 Targets which the project will contribute to	How the project will support the achievement of each target
Target 2 (By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems)	Amendments to existing policies, development strategies and legal frameworks are recommended to better serve the need of vulnerable farmers, including revised Biodiversity Strategy. Draft document for the ratification of the Nagoya Protocol by Uzbekistan.
Target 7 By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	Conservation of globally important biodiversity adapted to water-scarce agricultural landscapes; Increased number of hectares in the target sites in three agro-ecoregions of Uzbekistan with biodiversity rich solutions as a substitute for external inputs in these globally important ecosystems; Conservation of traditional fruit tree genetic diversity of apricot (<i>Prunus armeniaca</i>), grape (<i>Vitis vinifera</i>), pomegranate (<i>Punica granatum</i>), pear (<i>Pyrus</i> sp.), almond (<i>Amygdalus</i> sp.), pistachio (<i>Pistacia vera</i>), and apple (<i>Malus</i> sp.) and the ecosystem services they provide through a set of globally applicable technologies to increase the resilience of water-scarce agricultural ecosystems.
Target 8 (By 2020, pollution, including from	Reduction of spread, length and distribution of pest and diseases in project sites, and reduction of pesticide treatments due to on-farm implementation of the systems

excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity)	in place in demonstration plots as diversity rich practices.
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)	<p>Increased breeding programmes using local fruit tree diversity including Participatory Plant Breeding.</p> <p>Number of varieties per target crop with traits of interest used in multiplication systems available to farmers.</p> <p>Number of local institutions with the capacity to assess, multiply and disseminate diversified planting materials.</p>
Target 14 (By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable)	<p>Area of land on which farmers use land management systems that enable and affect ecological processes documented, and mainstreaming of the beneficial methods into agricultural development.</p> <p>Development of improved land management plans for water-scarce environments and degraded lands.</p> <p>Increased stability of target crops food supply for local communities.</p> <p>Percentage increase of market dynamisms and quality or exchanges among producers, buyers and consumers.</p>

A.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities. No change.

A.3 The GEF Agency’s comparative advantage: No change.

A.4. The baseline project and the problem that it seeks to address:

The baseline situation and the barriers¹ described in the PIF were maintained. The design of the Full Project Proposal is in line with the content of the original PIF document and the original three Project components remain unvaried. However, following the recommendation of the Project partners, outcomes under each technical component have been extensively reviewed to avoid potential overlaps and increase effectiveness and measurability. Particularly, changes made from the PIF include revision and refinement of the following project outcomes:

Outcomes revised during the PPG	Outcomes as written in the PIF
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¹ **Barrier 1.** The promotion by departments of agriculture and the private sector of unsustainable agricultural intensification practices in water scarce environment that do not value the role of fruit tree genetic diversity as a provider of ecosystem regulating services in land use management plans.

Barrier 2. Smallholder farmers have limited access to adequate plant diversity (in the form of seedlings) needed to improve their resilience and response capacity to environmental change.

Barrier 3: Inadequate legal and regulatory frameworks and administrative procedures to enable access to genetic resources and benefit sharing with farmer communities.

<p>1. Area devoted to sustainably managed fruit tree diversity is increased and ecosystem services are enhanced through greater use of biodiversity in water-scarce agricultural production systems.</p>	<p>1.1 3,000 hectares devoted to sustainably managed fruit tree diversity is increased and ecosystem services are enhanced through greater use of biodiversity in water-scarce agricultural production systems. 1.2 Policy and institutional framework mainstreaming biodiversity of local fruit species in water-scarce agricultural production systems are enhanced.</p>
<p>2. Farmers benefit from having increased availability of locally adapted materials to improve ecosystem resilience through better regulation of pollination service levels, diseases and arthropod pests, land degradation and water use efficiency.</p>	<p>2.1 Farmers benefit from having increased availability of locally adapted materials to improve ecosystem resilience through better regulation of pollination service levels, diseases and arthropod pests, land degradation, and water use efficiency. 2.2 Information on market mechanisms including trust are improved so that farmers have improved gains from increased production and ecosystem resilience, well-being, better cost-control e.g. reduced external inputs) from maintenance and use of the agrobiodiversity and increased returns for specific products.</p>

Similarly, all activities and outputs have been maintained in content but merged and associated in a consistent manner to allow coherence and efficiency in project implementation. They remain based on the original issues, constraints and subjects covered by all original outputs and follow the same underlying rationale and principles.

As a result of this extensive review, each Project outcome now includes two outputs based on a set of activities that have been gathered for their similarity/linkages, in order to be more impact oriented.

The changes made can be summarised as follows:

Component 1: Within Component 1, the number of expected outputs have been reconciled to two compared to nine expected outputs listed in the original PIF, so as to facilitate monitoring and impact assessment. Some of the original PIF expected outputs were rather descriptions of activities and sub-activities, and as such have been incorporated into broader outputs in this component.

Component 2: The same rationale was applied to Component 2, where the number of expected outputs have been reconciled to two compared to six expected outputs listed in the original PIF. This simplification does not affect the structure of this Component and all essential elements outlined and planned in the original PIF document are still captured.

Component 3: Also within Component 3, the number of expected outputs have been reduced to two from the four expected outputs listed in the original PIF – which did overlap with the others significantly. Updated outputs are now more targeted and measurable.

Final Project Components, Outcomes and Outputs are listed here below:

COMPONENT 1. Mainstreaming mechanisms that use of agricultural biodiversity to enhance ecosystem services in water-scarce environments targets the first barrier of unsustainable agricultural intensification practices.

The project will ensure that an appropriate diversity of globally significant traditional fruit tree varieties is widely deployed and integrated into water-scarce agricultural production systems of Uzbekistan. At the same time the conservation and management of these small scale traditional fruit tree production systems have added value in increasing the ecosystem resilience and services in these marginal environments. The principal ecosystem services that the project seeks to enhance are: water use efficiency, pollination service levels, and regulation of pathogens and arthropod pests. The project also aims to ensure that the ecosystem services derived from the management of agricultural biodiversity are recognized and widely promoted as part of national agricultural extension packages.

Outcome 1. Area devoted to sustainably managed fruit tree diversity is increased and ecosystem services are enhanced through greater use of biodiversity in water-scarce agricultural production systems.

Output 1.1 Expanded use of fruit tree varietal (intra-specific) diversity in adverse and degrade landscapes to improve water use efficiency, reduce pest and disease damage, and increase pollination levels

Key to the sustainability to water-scarce agricultural production systems is that farmers are able to maintain major adaptive traits for drought stress tolerance, while at the same time continuing to keep a large diversity of other traits within the different traditional varieties that they manage. By combining farmers' empirical knowledge about the relative drought tolerance of different varieties with a technical assessment of tolerance to adverse conditions (salinity, drought) through on-farm and on-station evaluation (using markers and other tools), scientists and farmers will together test and implement approaches to use within-species diversity in different production situations to increase overall levels of water-use efficiency in water-scarce environments. The diversity of local fruit tree varieties and their traditional knowledge associated will be documented and a catalogue or roster of the varieties for each agro-ecological zone and their traits of interest in water-scarce environments and degraded lands will be developed. These activities will result not only an increase in production and enhanced utilization of the water source but also an increase in the area planted with fruit trees, particularly in marginal, semi-arid lands.

Demonstration orchards using local diversity trees –with different varieties adapted to each project site– for degraded land rehabilitation in water-scarce regions to improve farmer knowledge will be established. At least 3 out of 8 demonstration orchards will be managed by female farmers. Project will ensure these demonstration orchards are close enough for farmers to visit and learn. Demonstration orchards established will also display the use of fruit tree diversity to reduce pest and disease damage and to increase pollination levels. On-farm and demonstration plots levels of fruit tree diversity will be compared to assess the amount of damage caused by major pest and diseases (field observations). Pest and disease spread and distribution and biological control agents population, health and distribution will also be compared (on-farm and demonstration plots) to better understand the interactions at stake in these production ecosystems. Practices for effectively using crop genetic diversity in response to diseases and arthropod pest pressures will be developed, starting with mixtures of varieties already being used by farmers. These practices and procedures will be tested and validated in farmers' fields at the different project sites, and will be compared to determine appropriate spatial and temporal scales to manage pests and diseases. Materials and methods will be mainstreamed through national food security and food safety initiatives. This will include providing different mixtures of local germplasm from project sites and earlier collected materials (including from *ex situ* collections) from similar agro-ecosystems, and promoting the exchange of resistant materials among farmers within as well as between project sites. Drought resistant varieties –among those mutually pollinated varieties- can also be employed to good advantage for enhancing pollination services. Increased crop genetic diversity within the agricultural ecosystems has the potential to sustain greater diversity and densities of pollinators, both temporally and spatially in the landscape, leading to more resilient and abundant fruit tree and annual crop production. Pollinators population, health and distribution will also be compared (on-farm and demonstration plots) to better understand the interactions at stake in these production ecosystems. Guidelines will then be developed for comprehensive agronomic actions to improve immunity to pest and disease and increase levels of pollination in orchards with increased fruit varietal tree diversity.

The project will build capacity of Uzbekistan agricultural extension services and government agencies to promote diversified fruit tree biodiversity in water scarce agricultural production systems. The training of agricultural outreach and extension staff, together with staff of government agencies (at least 1/3 women) will be carried out to support the process and the development of active Research and Development programmes. Multidisciplinary project team will investigate the problems and provide government and private sectors with new knowledge and capacity on alternatives to the current practice of promoting intensification of agricultural production systems that focus on mono-cropping of uniform varieties.

Output 1.2 Land management plans for water scarce and degraded landscapes, which include the use fruit tree varietal diversity, are developed and implemented and farming communities, extension and public government organizations have the capacity and leadership abilities to carry them out

A situation analysis of existing land use plans will be carried out to document regulatory and knowledge barriers in order to elaborate land use management plans to include fruit tree genetic resources conservation and use. Compatible land use plans at the site and district levels will be formulated based on the analysis and consultation with stakeholders, including local communities. Staff at state agencies and local communities (at least 1/3 women) will be trained on the importance of fruit tree biodiversity use for sustainable development and ecosystem service maintenance in water scarce environments. Land use options that reinforce existing social and economic priorities, which use fruit tree genetic resources will be developed. This will include integrating land management plans with growing markets for organic and sustainable products, maintaining essential ecosystem services, such as provision of freshwater, soil conservation and climate stability, and increased resilience to stress (e.g. increased unpredictability of rainfall and frost) at district levels. Improved land management plans will be submitted to local authorities for their approval.

Improved land management plans including the use of fruit tree varietal diversity of targeted fruit crops will allow the rehabilitation of degraded lands. A greater diversity of fruit tree species that include varieties more resistant to drought, pests and diseases will enable farmers in water-scarce environments to expand the area planted to fruit trees to more marginal or degraded lands. The canopy and root systems of perennial fruit trees can significantly reduce the effects of wind and water erosion of the soil, improve the penetration and retention of rainwater, and contribute to the restoration of organic matter, structure, and fertility of degraded soils.

In order to build capacity and leadership abilities of farming communities, extension workers and public government organizations to implement land management practices that include the sustainable use of fruit tree diversity, training centres in the two selected project sites/ agro-ecological zones overseen by the local provincial branches of the farmers' councils will be set up. Training and workshops on land management practices will be conducted for these various stakeholders and at least ¼ of trainers will be female. Not only training materials and guidelines will be developed but also curriculum on land management for universities. Local communities will be supported to develop a better understanding of land management practices that include the use of fruit tree diversity. Essential partnerships between extension services, research institutes and men and women farmer groups to build leadership capacity and to participate in leadership and decision making roles will also be supported. Combinations of farmer innovation and empowerment, the transformation of local government and extension staff and capacity building through adapted and relevant trainings, result in successful collective action for improved land management practices and use of traditional fruit tree varieties.

COMPONENT 2: Increasing the use of fruit tree biodiversity that enhances ecosystem regulating services in water-scarce environments

This component targets the second barrier of government and private sector organizations not valuing the role that fruit tree genetic resources place in the creation, enhancement and maintenance of ecosystem regulating services.

Outcome 2. Farmers benefit from having increased availability of locally adapted materials to improve ecosystem resilience through better regulation of pollination service levels, diseases and arthropod pests, land degradation and water use efficiency.

Output 2.1 Local fruit tree functional varietal diversity is available and accessible to farmers to use in their production systems

Analysis of existing planting material flow network will be conducted and key actors identified. Grafting material of the local fruit crops varieties will be supplied to specialized nurseries and farmers nurseries. The project will also support the maintenance of grafting materials for mother tree collections in the orchards of farmers/custodians of diversity. Community-based seedling nurseries will be established and/or enhanced to propagate drought-tolerant varieties and distribute them to local farmers and also to other nurseries around the country where similar water-scarce growing conditions prevail. These nurseries will propagate and make available a diversity of local varieties as well as drought-tolerant varieties received from other parts of the country so that they can be tested, evaluated and used by local small-scale farmers for the diversification of their water-scarce production systems. These nurseries will contribute in the set-up of systems of multiplication for planting materials of high diversity. Operation with communities and plant breeders from research institutes and informal breeders will also be part of the systems of multiplication set up.

The project will enhance integrated natural resource management practices by including and scaling up the use of the intra-specific diversity among cultivars maintained by farmers. The project seeks to mainstream such diversification in Uzbekistan by working in partnership with the national farmers' association to develop a toolkit of best practices and procedures that enhance ecosystem services through the management of crop biodiversity on-farm, and include these practices and procedures as part of the agricultural extension package for water-scarce farming communities. Other approaches that the project will employ to mainstream the on-farm management of crop biodiversity for obtaining enhanced ecosystem services will be Farmer Field Schools and Diversity Fairs. These approaches both provide forums for farmers to exchange ideas about the use, management, selection and conservation of crop genetic diversity; and offer training opportunities that create a new paradigm for partnerships among farmers, researchers and extension services. Diversity fairs will be organized to improve male and female farmers' access to planting material of local varieties, and provide an opportunity to improve their knowledge about the ecosystem services that can be gained by planting an increased diversity of local fruit tree varieties. Formal linkages already established from past projects between community-based organizations, agricultural extension agencies and national research and policy agencies will be enhanced to expand direct linkages of agriculture and environmental agencies and research institutes

to national and local seedlings suppliers to enable diversified materials to be mainstreamed through the national seedling supply system. Access to quality planting material is often one of the most vulnerable components of diversity management at local level. Strong seedling supply systems will enable farmers to maintain a high level of crop genetic diversity over time, despite regular and unanticipated losses of crop genetic diversity that is an inevitable part of farming, and especially in marginal areas. Extension packages/diversity kits that include traditional fruit tree varieties for drought and degraded environments will also be developed and made available through the reinforced supply systems.

The quality control system in place for planting material will be improved and quality standards for planting material of fruit crops which are grown in the selected agro-ecological zones will be developed. The project will establish and organize supply systems that involve the production and dissemination of certified quality seed including through regional and local informal initiatives with potential to multiply and disseminate diversified genetic material among smallholder, vulnerable farmers.

***Output 2.2** Farmer information systems and market information mechanisms for growing local fruit tree varietal diversity are in place.*

Farmers who have to access seed from other sources have to depend on information offered by the seed provider or on common shared knowledge on traits, consumption characteristics, environmental adaptation and seed quality etc. to manage their crops. Often their information about crop varieties is extremely limited. Knowledge empowerment will be undertaken through village-based knowledge/Consulting and Training Centres to provide timely and local-specific information related to scion and rootstock compatibility, and contact custodians of diversity of both mother plants (scion block) and rootstocks. This will include using solar power where electricity is not continuous linked to low cost cell phone text messages applicable to the farmer's local conditions will be used to increase the capacity for rural farmers to access key climatic, market and agroecological information to help them make informed decision making. The set up Consulting Centres will not only offer information about local fruit diversity resilient to various factors and technologies to grow seedlings materials in water-scarce environment but also carry out training courses and round tables about raising awareness among local populations on the diversity of local varieties functional traits and forms resilient to various stresses. Methodological guidelines posters, fliers and educational videos to show the diversity of local varieties functional traits will also be developed. Mass media will be a means to raise awareness.

The diversity of local fruit tree varieties and their traditional knowledge associated will also be documented through the development of a data base and community biodiversity registries, which will raise farmers' awareness of the available fruit tree diversity and facilitate the exchange of relevant information about the varieties. This will facilitate the inclusion of a wide range of local fruit tree varieties and forms in the National State Register of Released Crop Varieties. Moreover, organized diversity fairs will not only improve male and female farmers' access to planting material of local varieties but also provide an opportunity to improve their knowledge about the ecosystem services that can be gained by planting an increased diversity of local fruit tree varieties.

A participatory market chain analysis will be used to identify obstacles to obtaining greater value for traditional fruit tree varieties, to map out relationships among market actors and bottlenecks in flows of crop genetic resources, and to provide insight into how prices behave in seed, seedling and product markets. The analysis will be used to quantify how traditional fruit tree varieties obtain market value as they move from producers to consumers. As a result of the movement of goods through the value chain, the series of transaction costs arise. These will be classified into information, negotiation, and monitoring or enforcement costs and use to help identify how to better link the various market actors (producers, processors, traders, consumers) into equitable partnerships. The infrastructure, institutions, policies, and customary practices that influence the broader market and the institutions and policies shaping the enabling environment will also be mapped. This will be followed by participatory market chain stakeholder consultations/meetings, which combine interests of producers, traders, retailers, exporters, cultivation experts, NGOs, government ministry representatives, and others. These will help generate and establish joint ventures with private-sector firms. The project will also build farmers' capacity in management, use and exchange of market information regarding planting material of local diversity of fruit crops. Innovative methods to create and market local fruit trees products which contain their varietal diversity will also be developed and applied as, for example, the creation of a package of diverse varieties of a fruit tree to be sold as a package.

COMPONENT 3. Promoting an enabling environment for access and benefit-sharing mechanisms that recognize and enhance the custodians of ecosystem services

This component targets the third barrier of inadequate legal and regulatory frameworks and administrative procedures that enable benefit sharing for the custodians of ecosystem services provided by fruit tree biodiversity. The project aims at increasing the benefits and incentives to farmers from conserving and using crop diversity in their production systems.

Outcome 3. Options for national access and benefit sharing laws identified to support the promotion of ecosystem services within agricultural production systems.

Output 3.1. Options for national access and benefit sharing (ABS) laws identified to support the promotion of use of agro-biodiversity and ecosystem services within agricultural production systems

The project will review and analyze all laws and regulations in Uzbekistan that effect access to plant genetic resources and the sharing of benefits associated with their use. This work will build on related research already conducted in the context of the UNEP/GEF project “*In situ/on farm conservation and use of agricultural biodiversity (horticultural crops and wild fruit species) in Central Asia*”. Among other things, it will identify and analyze existing policies (and policy gaps) that are creating disincentives for farmers to provide access to, and enjoy benefit associated from the use of, fruit tree genetic diversity in water scarce production systems of Uzbekistan. Activities will include determining which national laws and policies encourage benefit-sharing (monetary and non-monetary) with farming communities and the formulation of provisions or the practices for data sharing and access to planting materials. The project will sponsor participatory activities to develop recommendations for Uzbekistan to ratify international laws concerning access and benefit sharing, including the Nagoya Protocol, and to identify/recommend the primary elements/components that need to be built into national access and benefit sharing laws in Uzbekistan while fulfilling their international obligations. It will include a particular focus on implementing options and mechanisms that respond to, and promote the use of crop diversity for the benefit of farmers.

It will also include an analysis of international laws concerning access and benefit sharing, the extent to which Uzbekistan is in compliance with its international obligations, and a comparative analysis of access and benefit-sharing laws and mechanisms developed in other countries. Public awareness materials will be developed and disseminated to raise awareness on ABS issues. Workshops and round table discussions will allow building national capacity on ABS issues.

Output 3.2 Recommendations and strategies drafted that promote diversified fruit tree biodiversity in food security, rural development and land management policies at national (Biodiversity strategy) and international (Nagoya Protocol) levels

The project will analyse the existing national policies on food security, rural development and land management policies and regulations to identify the gaps related to providing support to farmers and local communities in mainstreaming diverse agricultural biodiversity to cope with water scarcity and other unfavourable environment stresses in their production systems. Workshops and round table discussions to increase knowledge of national agricultural extension service and government agencies on role of fruit tree biodiversity in sustainable agricultural production in water-scarce environment will also be organized. The project will also study the current status of linkages among all actors involved in agriculture production, land and water resources management and agro-biodiversity maintenance including decision makers, farmer communities, researchers, extension service, private agencies and civil organizations at local and national level. This will help to formulate sound proposals for strengthening policy and development of strategic alliance among stakeholders. Agreed proposals will be submitted to relevant government agencies according to formal procedures. The project will strengthen coordination and partnership framework among stakeholders (national extension, research institutes, civil society, private sector and policy making agencies at local and national levels) involved in conservation and utilization of natural resources in the country, including land, water, biodiversity resources management at all levels: local, regional and national. Farmer groups and local communities, research institutions, civil society organizations, development agencies, local authorities and national ministries will be brought together to formulate sound policy supporting fruit tree diversity deployment, utilization of local fruit tree diversity for adaptation to changing environment and ensuring sustainable production, access to diversified germplasm, access to increased knowledge, application of better practices. Linkages will be strengthened among farming communities and local and national extension and research staff to support knowledge sharing and mainstreaming of these practices through the Uzbek agriculture extension system.

Uzbekistan has been revising its strategic plans on biodiversity conservation and use where the risks of agro-biodiversity loss will be recognized and aspects of its maintenance in the production systems will be addressed. This provides the appropriate framework for development of policy recommendations in Uzbekistan that use fruit tree

genetic diversity and are relevant to farmers needs at local, regional and national level. In this area the project will build on, and further develop, recent work supported by UNEP-GEF on “*In situ/on farm conservation of agricultural biodiversity (horticultural crops and wild fruit species) in Central Asia*” on strengthening national policies on conservation of wild fruit species in natural habitat, supporting farmers in sustainable management of local diversity of fruit trees in their orchards, recognition of farmers’ rights as custodians of agro-biodiversity. Specific policy recommendations will be developed for mainstreaming of diversified fruit tree portfolio into land use management plans that influence the production systems. Proposals will be developed for the inclusion of conservation and sustainable utilization of local fruit trees biodiversity as an important component of agro-ecosystems in the chapter on the agro-biodiversity conservation and utilization of the revised version of the National Biodiversity Conservation Strategy and National Action Plan. Proposals after stakeholder consultation will be submitted to the Inter-agency Working Group on revision.

The project will also assemble the documentary record necessary to support the ratification of the Nagoya Protocol by Uzbekistan. The project will bring leading researchers in contact with competent national authorities responsible for promoting the ratification of the Nagoya Protocol, to help sensitize them about the perspectives of farmers and national researchers about fruit tree genetic diversity in water scarce production systems of Uzbekistan. Potential benefits for Uzbekistan from ratification of the Nagoya Protocol will be highlighted. It will also allow the competent authority to inform the researchers about the kinds of documentary record and summary information that is most useful. The project will draw upon, and use where appropriate, documentary records established for this purpose in other countries. A national consultation will also be organized with stakeholders to discuss and finalize the developed documentation. In this context, it is worth noting that the Nagoya Protocol functions to extend, beyond the standards that exist under the CBD, the rights of indigenous and local communities as potential providers of genetic resources and associated traditional knowledge.

A. 5. Incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

The principle presented in the PIF was maintained. The project design now includes detailed intervention logic and the global environmental benefits have been identified as follows:

1. Conservation of globally important biodiversity adapted to water-scarce agricultural landscapes;
2. Increased number of hectares in the target sites in three agro-ecoregions of Uzbekistan with biodiversity rich solutions as a substitute for external inputs in these globally important ecosystems;
3. Conservation of traditional fruit tree genetic diversity of apricot (*Prunus armeniaca*), grape (*Vitis vinifera*), pomegranate (*Punica granatum*), pear (*Pyrus* sp.), almond (*Amygdalus* sp.), pistachio (*Pistacia vera*), and apple (*Malus* sp.) and the ecosystem services they provide through a set of globally applicable technologies to increase the resilience of water-scarce agricultural ecosystems;
4. Globally applicable, community-based conservation models and tools that support indigenous and local communities – as well as the scientific and development communities – to conserve and use local fruit tree biodiversity to regulate pests and diseases, increase pollination services, and improve soil conservation and water use efficiency in water-scarce production systems.

Innovativeness, sustainability and potential for scaling up

Water scarcity is a major problem in the agriculture development in Uzbekistan. Considering that this issue is becoming more serious over the last decades the project is aimed to use local fruit tree varietal diversity and its functional traits and facilitative interactions for pest, disease and pollinator regulation, nutrient cycling, and soil-water retention to support ecosystem regulating services and promote long-term stability of agricultural production systems in the water scarce environments of Uzbekistan. This innovative approach of use of fruit tree genetic resources to combat the destruction of ecosystem regulating services (reduced water quality and pollination efficiency, and the increased vulnerability to disease and arthropod pests and natural hazards (floods, droughts) and ecosystem supporting services – (slower hydrological cycling, soil nutrient cycling and soil formation) will be promoted through activities under the Outputs 1.1 and 2.1. Additionally, sustainable use of fruit trees diversity adapted to water scarce environment will help to reduce application of chemical fertilizers and pesticides and contribute to the food safety and health, as well as protection of pollinators. Although in natural ecosystems, the relationship between biological diversity and ecosystem regulating and supporting services has been given economic value, in cultivated systems the

potential role of agricultural biodiversity to provide ecosystem services has not been harnessed, Activities for Output 1.1 support this. This innovative approach will be scaled up to overcome the Barriers presented earlier through a paradigm shift of the Uzbekistan partners under Outputs 1.2, 2.1 and 2.2 that will move away from single solutions in agricultural production systems by creating ‘insurance’ portfolios comprised of multiple ways to better use agricultural biodiversity to enhance ecosystem services. Activities leading to Output 2.1 will build capacity of natural resource managers to support and create partnerships with small scale farmers who use agro-biodiversity management methods that reduce vulnerability in the production system while at the same time maintaining productivity through the activities under Component 1, thus contributing to overcoming Barrier I. Activities under Outputs 2.1 and 2.2 will work to change consumer and retailer norms that support the use of agricultural biodiversity in agricultural production systems that reduce vulnerability with continued productivity through enhanced ecosystem services and thus allowing Barrier II to be overcome. Under Outputs 3.1 and 3.2 activities support innovative policies towards legal measures and incentives that support production systems with less dependence on external inputs, and wiser management of agricultural biodiversity.

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:

The analysis of risks and proposed mitigation measures presented in the PIF was maintained, as described in the table below:

Risk	Level	Risk Mitigation Measures
Climate change or other environmental events remove diversity and lead to expansion of desert and arid zones in Uzbekistan	M	One of the main ideas of the project is to instill necessary mitigation measures and good practices of mitigation in the National Agricultural Biodiversity Strategy and national policies. Project implementation will allow buffering fruit tree production and thus local communities from climate change risks and other environmental events and help increasing the resilience and adaptability of important agro-ecosystems in Uzbekistan.
The political and security environment deteriorates	L	Uzbekistan has a stable government system in place.
The Government of Uzbekistan does not uphold supportive policies for the use of traditional fruit tree diversity to support ecosystem services.	L	Recently adopted national programmes confirm the interest of the Government of Uzbekistan towards increasing local fruits and grape production.
Failure of the private sector and NGOs to engage in the project and in the ideas behind it without evident and immediate financial interest; non-engagement aggravated by inadequately developed markets for potential agricultural biodiversity products	L	The growing demand for products that can demonstrate a sustainable production base -and thus a medium and long-term financial interest-, particularly in the case of fruit trees, will mitigate this risk
Communities and farmers do not wish to participate	L	Farmers and local communities will be involved in a participatory manner at all stages of project development so that their problems and concerns are realistically identified and measures are embedded to address these. Project implementation experiences from over 20 countries have shown this risk is overcome by adoption of appropriate

		participatory approaches during project planning and implementation phases
Commitment to <i>in situ</i> and on-farm conservation of agricultural biodiversity may not be desirable to all farmers and communities.	M	To mitigate this, the project will explore the use of incentive measures to make this more attractive to farmers.
The national agriculture and environment sectors do not cooperate and do not demonstrate effective coordination	L	National stakeholders have expressed a strong desire for this project and project development will rely on significant representative partnerships at all stakeholders levels.

A.7. Coordination with other relevant GEF financed initiatives

The project will be based on the main outputs and lessons learned from UNEP/GEF project “In situ/on farm conservation and use of agricultural biodiversity (horticultural crops and wild fruit species) in Central Asia”, implemented in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan in 2006-2012 and aimed on exchange and provision of knowledge, methodologies and enabling policies to help farmers, institutes and local communities to ensure sustainable in situ/on-farm conservation and utilization of local diversity of apple, apricot, almond, grape, cherry-plum, mulberry, peach, pear, pomegranate, pistachio, seabuckthorn and walnut in Central Asia. The project resulted in policies that support sustainable management of fruit species genetic diversity (cultivated and wild resources), better knowledge on fruit crops diversity level and its distribution, traditional knowledge of farmers on management practices, participation of farmers and local communities in conservation actions, and improved capacity of stakeholders to implement legal, scientific, and social aspects of fruit species genetic diversity conservation. At global level the project will continue collaboration and exchange of expertise with the UNEP/GEF project “Conservation and sustainable use of cultivated and wild tropical fruit diversity: promoting sustainable livelihoods, food security and ecosystem services” which aims at strengthening sustainable livelihoods through improved management and utilization of tropical fruit genetic diversity by strengthening the capacity of farmers, local communities and institutions in Indonesia, India, Malaysia, Thailand.

The proposed project will also closely collaborate with the recently started “Horticulture support project” (HSP) funded by IFAD in area of enhancing the resilience of rural livelihoods to climate change and reducing their vulnerability to extreme weather events through mainstreaming adapted traditional fruit tree diversity into productions systems and increasing ecosystem services in marginal environments. The project will collaborate with the new GEF-UNDP projects “Sustainable agriculture and climate change mitigation project” in area of improving knowledge and skills of farmers and local communities in water use efficiency and agricultural productivity and “Reducing pressures on natural resources from competing land use in non-irrigated arid mountain, arid semi-desert and desert landscapes in Uzbekistan” in area of development of integrated policy, legal and institutional framework for applying integrated landscape management, ensuring that the ecosystem services derived from the management of agricultural biodiversity are recognized and included in the national agricultural extension packages.

The project activities will be also closely coordinated with the new UNEP initiative on Ecosystem Management of Productive Landscapes: *Development and promotion of the “Landscape Approach” to increase the sustainability of production and improve food security through ecosystem management*”

In order to ensure that these linkages and possible coordination become reality the project will work closely with the Platform for Agrobiodiversity Research ([www. Agrobiodiversityplatform.org](http://www.Agrobiodiversityplatform.org)), hosted by Bioversity International to mainstream project results to its global network of partners. The Platform’s objectives include that of providing access to expertise in key areas, facilitating information sharing and the exchange of experiences and providing information on tested practices. Links with the Platform will also enable the project to become aware of, and build links to, other national and global projects that support the maintenance of agrobiodiversity that may be initiated during the lifetime of the project.

The project will closely work with national government agencies, private organizations, research centres and local communities to ensure that local fruit crops diversity is deployed in fruit trees nurseries and promoted in 22,000 ha of new orchards and vineyards to be established in the target agro-eco-regions according to the national programme “On measures on further viticulture development in the Republic of Uzbekistan for 2013-2015” (President’s Decree #1937 of 13 March 2013). Options for coordination with on-going international and national initiatives in the country have been investigated during the project preparation phase to ensure complementarity of these initiatives and benefiting from each other. The project fully supports Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources by 2015 under Outcome 3: Environment of the UNDAF for Uzbekistan: 2010-2015.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1 Describe how the stakeholders will be engaged in project implementation.

The proposed project will build on and strengthen past, present and proposed activities supported by the Uzbekistan Government and its long term partnerships with 10 national institutions and NGOS, to mainstream the conservation and use of fruit tree diversity in water scarce environments of Uzbekistan to improve ecosystem resilience, ecosystem services and access and benefit-sharing capacity for small scale farmers. The Institute of Horticulture, Viticulture and Winemaking named after acad. M. Mirzaev will be the main execution and coordination agency for the project. The project will closely work with a diverse group of stakeholders including research institutions, policy making agencies of national and local levels, farmers and local communities, farmers associations and other non-governmental organizations and unites them in an effective project implementation team. Ministry of Agriculture, State Committee of Nature Protection and Republican Association of Farmers will contribute to formulation of the enabling policy for access and benefit-sharing mechanisms that recognize and enhance the custodians of ecosystem services, conservation and sustainable use of agro-biodiversity for the benefit of the nation and global community. Technical support will be provided to the project team by research institutions (Research Institute of Horticulture, Viticulture and Wine-making named after Acad. M. Mirzaev (RIHV&WM); Research Institute of Plant Industry (UzRIPI); Republican Research and Production Centre of Ornamental Gardening and Forestry; Tashkent State Agrarian University (TSAU); Institute of Genetics and Plant Experimental Biology (IGPEB); and the Centre of Genomics and Bioinformatics in analysis and testing of approaches and practices. Male and female farmers and community based organizations will conduct participatory research and analyze, manage and improve their own fruit tree genetic resources together with project partners. Lead male and female farmers in Soliobod, Hujabulgan and Dashnabad communities (South agro-ecoregion), Shurakhon, Hazratbobo, Karvak and Sarapayan communities (North-western agro-ecoregion) will be identified and involve in the project to enhance community capacity in management and sustainably utilization of fruit tree biodiversity in high water stress environments. Capacity and leadership will be built so that male and female farmers have the ability to participate in local and national decision making forum concerned with access and use of genetic resources.

Stakeholder participation arrangements during project preparation

An informal coordination team involving Ministry of Agriculture of the Republic of Uzbekistan, State Committee of Nature Protection of the Republic of Uzbekistan, research institutes of Academy of Sciences, Farmers’ Association, Bioversity International and UNEP has already been established for this project to oversee project preparation and ensure full participation of stakeholders during this process. The project development team ensured that all relevant stakeholders were consulted and involved in the development of the project proposal. Consultation with stakeholders were made on regular manner. Two workshops with stakeholders were organized during the project preparation stage to consult, generate information, validate the approach and develop stakeholders’ partnership strategy for implementation of the project. In addition, separate consultation and discussion were organized with stakeholders to develop co-financing plan and ensure its implementation. The most importantly consultation with local communities at the project sites were undertaken. These consultations utilized the already established Multifunctional Site Committees (MSC) and Coordination Committees (CC) mechanisms that were developed within the UNEP-GEF project “*In situ*/on farm conservation and use of agro-biodiversity in Central Asia”.

Key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable

STAKEHOLDERS	Type of involvement
<p>Government Ministries, Departments and State Committees:</p> <ul style="list-style-type: none"> Ministry of Agriculture and Water Resources of the Republic of Uzbekistan Academy of Sciences of the Republic of Uzbekistan Research and Production Centre on Agriculture under the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan 	<p>Members of the Project Steering Committee. Participating in the project through the Research and Production Center of Agriculture; providing general oversight of the project implementation and performance; coordinating among project partners; assessing project results.</p>
<p>State Committee</p> <ul style="list-style-type: none"> State Committee of Nature Protection of the Republic of Uzbekistan 	<p>Member of the Project Steering Committee. Responsible for inventory and monitoring of project implementation, evaluation of project results; developing and disseminating public awareness materials to raise awareness on ABS issues and developing proposals to put in place ABS issues in national policies and laws; and land management policies; and developing documentation for the ratification of the Nagoya Protocol.</p>
<p>Government Agricultural Research Institutes:</p> <p>National Executing Agency: Institute of Horticulture, Viticulture and Winemaking named after acad. M. Mirzaev</p> <p>Others: Uzbek Research Institute of Plant Industry</p> <p>Tashkent State Agrarian University</p> <p>Republican Research and Production Centre of Ornamental Gardening and Forestry</p> <p>Institute of Genetics and Plant Experimental Biology (IGPEB) of the Academy of Sciences of Uzbekistan</p> <p>Centre of Genomics and Bioinformatics</p>	<p>Institute of Horticulture, Viticulture and Winemaking named after acad. M. Mirzaev and Uzbek Institute of Genetics and Plant Experimental Biology (IGPEB) will act as the National Executing Agencies (NEA) of the project. Will act as nodal organization in the project at the national level to coordinate all the activities with facilitative partnership with key partners and stakeholders</p> <p>Government agricultural research institutes will support the project in providing scientific and technical inputs and collaborate in research and development of methods and approaches. This will include participatory diagnostics of fruit tree resources with local communities, development of training materials and conduct training workshops, supporting the establishment of nurseries, and preparation of public awareness materials.</p>
<p>Non-governmental organizations and civil Society</p> <p>Farmers' Union of the Republic of Uzbekistan</p>	<p>Member of the National Steering Committee; maintaining Consulting Centres and Training Centres to build farmers' capacity in sustainable management of fruit trees diversity and marketing fruit products; organizing training workshops for farmers; organizing round tables; organization of farmers' fairs; developing public awareness materials; development proposals to promote fruit trees diversity in food security, rural development and land management.</p>
<p>Male and Female Farmers</p>	<p>Participate in participatory research to analyze, manage and improve their own fruit tree genetic resources together with project partners. Take leadership in the exchange of genetic materials and knowledge and improving access to diversified quality planting materials to other farmers and communities. Lead farmers will enhance community capacity to manage and sustainably utilize fruit crop biodiversity in water-scarce environments. Selected women farmer</p>

	will mobilize other women farmers in the community Participate in local and national decision making forum concerned with access and use of genetic resources.
Multi-lateral agencies: Bioversity International, Italy	Will be a member of the Project Steering Committee. Responsible for overall execution of the project, and will provide appropriate scientific support and technical expertise as required by the National Executing Agency and other national partners. Participate in project site visits and technical meetings and promote mainstreaming of methodologies developed and project outputs to and from its network of crop and fruit tree biodiversity conservation and use projects around the world.

B.2 Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF):

The immediate beneficiaries include: farmers, farming communities, scientists, researchers, and policy-makers. The various benefits as an outcome of this project are described below:

The project is expected to have positive environmental impacts because of its focus on conserving biodiversity and ecosystem service values. By integrating biodiversity and ecosystem service considerations into agricultural production practices, the project will help to preserve or restore essential ecosystem functions and thus help increase the resilience of water-scarce and degraded landscapes to changing rainfall and water flow levels and thereby help buffer them against climate change impacts. The work will help farmers adapt their agriculture to climate turbulence by giving them a range of local adaptive varieties to select from what is best suited to their particular land type and agriculture conditions. The concept of genetic diversity as a major adaptation mechanism to cope unpredictable changes will receive greater acceptance and therefore better policy and financial support. The food security of the region and areas beyond it will get great support from this program which apart from deploying genetic diversity for stabilizing agriculture productivity, will also build skills to conserve and use these resources at the local level for the benefit of the farming community. Farmers and scientists will be better equipped to engage in PPB with a number of well characterized varieties available to breed high performance varieties suited to local conditions.

This project promotes activities to enhance the ability of farmers to take decisions concerning the management of diversity rich options. Each component of the project includes activities that build leadership and capacity of indigenous and local communities to participate more effectively in local and national decision-making fora. At the national and regional levels, several economic benefits are expected, particularly those resulting from i) assessment of local diversity, ii) access of rare and unique adaptive materials, availability of wide range of fruit tree crops adapted to water-scarce and degraded landscapes, provision of improved processing technology, promoting environmentally friendly practices that will possibly lead certification schemes. Finally, iii) strengthening capacity and leadership of local institution for supporting conservation and development action plans after the completion of the project.

The project focus on improved understanding and conservation of ecosystem services is also expected to entail positive social impacts, as these services provide important benefits to local communities, such as improved water supply and quality and more protection against soil erosion and impoverishment of agricultural lands. Gaining access to markets for diversified products that are produced using fruit tree intra and inter-specific variety, under relevant and acknowledged land management plan, will help poor farmers, both men and women, to achieve better incomes and improve their livelihood. These positive socioeconomic impacts will be the more sustainable as they will be built increasingly on real market economy and not external incentives. Strong farmer alliances coupled with project focus on governance, capacity building and social inclusion at all levels of organizational setup will guarantee participation of socio-economically marginalized individuals in decision making process as well as ensure more equitable distribution of income from marketing. Project activities will strengthen farmers' income base, as well as empower and link them to relevant agencies and initiatives.

The national and international scientific community and their research and breeding programs will benefit from access to germplasm of target fruit crops, the properties of which have been accurately documented through field characterization and the knowledge collected from the farm families. This characterization will help to identify useful traits for breeding like tolerance to biotic and abiotic stress, yield, keeping and cooking quality, etc. The training and awareness programs, diversity fairs, farmer exchange visits, etc. will sensitize farmers again about the importance of fruit tree genetic diversity to food security and the crucial need for its conservation. A scientifically managed program of this kind will give them the confidence to rely on traditional varieties for improving productivity when faced with water scarcity and soil salinity.

The project will also be working on Benefit Sharing protocols in order to ensure that the custodians of the world's genetic diversity for food security benefit from the public good they are providing. Efforts for international level benefit sharing will be oriented to take into account the interests of the farmers and communities maintaining the materials.

With reference to gender, essential partnerships between extension services and men and women farmer groups will be supported to build leadership capacity and improve decision making roles. Selected women farmers will mobilize other women farmers in the community. As a result, successful collective action for improved land management practices will be achieved and enriched by an innovative gender oriented approach. Moreover, female farmers will be actively involved in workshops and round table discussions on the role of fruit tree biodiversity in sustainable agricultural production within the framework of water-scarce environments. Finally, linkages among all actors involved in agricultural production, land and water resources management and agrobiodiversity maintenance at local and national levels will be investigated on a gender perspective.

The socioeconomic benefits described in this paragraph fully comply with the Environmental and Social Safeguards addressed by Bioversity as part of the GEFs evolving Fiduciary Standards (Ref: Checklist for Environmental and Social issues).

B.3. Explain how cost-effectiveness is reflected in the project design:

Effective mainstreaming depends on reaching out in relevant and realistic ways to the overall concerns with economic development, improvement of rural livelihoods, food security. The basic assumptions of the project with regard to cost-effectiveness are that the sustainable management and conservation of fruit tree biodiversity is best achieved 1) through bringing together partners from local to national levels from environment, agriculture and soil conservation and national economic development sectors; 2) through farmer and community led activities and community-based management; 3) building a framework for linking formal and informal sectors; 4) building on existing institutional mechanisms and developing adequate proposals for policies and regulations for the conservation and sustainable use of fruit tree diversity; and 5) taking advantage of international expertise -in key areas of agro-biodiversity maintenance and use and in the issues of sustainable production- and local experience in the NGO, governmental and academic sector for supporting capacity building processes.

The project is expected to be cost-effective, in the first instance, as a result of its ability to bring together partners from the environment, agriculture and soil conservation and national economic development sectors. Representatives from the different Ministries will be contributing the project by participating to the project Steering committee bringing in their own different perspectives, experiences and skills and ensuring that the agro-biodiversity agenda is addressed in ways that reflect the experience, interests and concerns of the widest possible range of stakeholders. The involvement of different Ministries and government departments and research institutes (see section B.1) will maximize the technical cost effectiveness of the activities. The project will create the opportunities for realistic appreciation of trade-offs between production and conservation and for the identification of opportunities for win-win solutions that improve livelihoods, secure the maintenance of agro-biodiversity and to buffer against unpredictability in terms of temperature, rainfall, pests and pathogens.

A central element of the project's approach is the emphasis placed on the development of farmer and community led activities. The involvement of local authorities such as Village Development Committee, Community-Based Organizations and the use of and participatory community based approaches will ensure that the outputs reflect the realities of the rural situation rather than being developed as a response to national policies or possibly inappropriate options that come from ungrounded research. This approach will ensure that the agro-biodiversity outputs are firmly based on and connected to the realities of rural production and the needs of the farmers and rural communities of the project remote areas involved to improve their livelihoods (income, health, and food security). The importance of

improving income is explicitly recognized in the project and provides the necessary framework for ensuring that the different agro-biodiversity conservation activities are secured through their beneficial effects for the communities who undertake them.

Through its involvement of local and national NGOs, the project will provide an appropriate cost effective framework for linking formal and informal sectors. The different NGOs involved will support farmers through strengthening local institutions and through their work to secure adequate market returns from the production of agro-biodiversity rich products. They will also play an important wider role in ensuring that project outputs become more widely known and recognized in Uzbekistan, both by the public and by those involved in developing and implementing policy.

The cost-effectiveness of the investment will be supported through the development of a set of proposed policies and regulations, which already take account of the perspectives of the different stakeholders involved in execution. Instead of a single sector approach in which e.g. the concerns of the agriculture sector or environmental sector are foremost, the project execution framework ensures that policies and regulations that are identified can reflect the perspectives of different stakeholders from local groups to national ones and from different environmental, economic development and agricultural sectors.

The involvement of a selected group of international organizations, with expertise in key areas of agro-biodiversity maintenance and use and in the issues of sustainable production, will ensure that Uzbekistan has direct access to some of the best developed procedures, protocols and methodologies currently available. For example, Bioversity International has unique experience on genetic resources conservation and on policy issue in agro-biodiversity gained over many years, and other partners bring unrivalled knowledge on e.g. ecosystem service provision and pollinator effectiveness in agro-ecosystems. The involvement of international partners also provides a cost effective way in which the project can bring benefits to the global community and to other countries exploring the demands to improve the livelihoods of rural communities and maintain diversity. Finally, the cost-effectiveness of the project is strengthened through the involvement of Bioversity as the Executing Agency which, given the experience in managing UNEP GEF projects will support the project execution and, as part of its co-funding commitment, strengthen the administrative, financial and technical oversight of the project.

C. DESCRIBE THE BUDGETED M & E PLAN:

The project will follow UNEP standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Annex N. Reporting requirements and templates are an integral part of the UNEP legal instrument to be signed by the executing agency and UNEP.

The project M&E plan is consistent with GEF Monitoring and Evaluation policy. The Project Results Framework presented in Annex A includes SMART indicators for each expected outcome as well as mid-term and end-of-project targets. These indicators along with the key deliverables and benchmarks included in Annex G will be the main tools for assessing project implementation progress and whether project results are being achieved. The means of verification and the costs associated with obtaining the information to track the indicators are also summarized in Annex H. Costed M&E Plan. Other M&E related costs are also presented in the Annex H and are fully integrated in the overall project budget.

The M&E plan will be reviewed and revised as necessary during the project inception workshop to ensure project stakeholders understand their roles and responsibilities vis-à-vis project monitoring and evaluation. Indicators and their means of verification may also be fine-tuned at the inception workshop. Day-to-day project monitoring is the responsibility of the project management team but other project partners will have responsibilities to collect specific information to track the indicators. It is the responsibility of the Project Manager to inform UNEP of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

The Project Steering Committee will receive periodic reports on progress and will make recommendations to UNEP concerning the need to revise any aspects of the Results Framework or the M&E plan. Project oversight to ensure that the project meets UNEP and GEF policies and procedures is the responsibility to the Task Manager in UNEP-GEF. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and may establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

At the time of project approval approximately 50 percent of the quantitative baseline data are available. Further baseline data collection, synthesis and gap analysis will be among the first activities undertaken during project

implementation. It is expected that baseline data gaps will be addressed during the first year of project implementation, coordinated by the PMU, and will involve relevant government agencies, national level partners and international project partner organizations and institutions. A plan for collecting the necessary baseline data is presented as part of Annex F (Workplan and Timetable) and Annex G (Benchmarks and Deliverables). Project Workplan: baseline data collection at pilot sites is specifically addressed by activities 1.1.1-1.1.4, 1.2.1, 2.1.1, 2.2.1, 2.2.2, 3.1.1, 3.2.1, and 3.2.2.

Project supervision will take an adaptive management approach. The UNEP Task Manager will develop a project supervision plan at the inception of the project that will be communicated to the project partners during the inception workshop. The emphasis of the UNEP Task Manager supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring. Progress vis-à-vis delivering the agreed project global environmental benefits will be assessed with the Steering Committee at agreed intervals. Project risks and assumptions will be regularly monitored both by project partners and UNEP. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR process. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources. Monitoring will also include periodic assessments of the project's performance in relation to the environment and social safeguards put in place by GEF Implementing Agencies.

An independent terminal evaluation (TE) will take place at the end of project implementation. The EO will be responsible for the TE and liaise with the UNEP Task Manager throughout the process. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes:

- (i) to provide evidence of results to meet accountability requirements, and
- (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP and executing partners.

While a TE should review use of project funds against budget, it would be the role of a financial audit to assess probity (i.e. correctness, integrity etc.) of expenditure and transactions.

The TE report will be sent to project stakeholders for comments. Formal comments on the report will be shared by the EO in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six point rating scheme. The final determination of project ratings will be made by the EO when the report is finalized. The evaluation report will be publically disclosed and will be followed by a recommendation compliance process.

The direct costs of reviews and evaluations will be charged against the project evaluation budget.

The GEF tracking tools are attached as Annex P. These will be updated at mid-term and at the end of the project and will be made available to the GEF Secretariat along with the project PIR report. The mid-term and terminal evaluations will verify the information of the tracking tool.

In addition to the standard M&E activities (Component 4) related to project implementation, the Project will be in a position to contribute significantly to the tracking of relevant global indicators in the area of biodiversity, agriculture and climate change. Particularly relevant are results and outcomes of the project which can be used to measure progress against the *CBD Strategic Plan for Biodiversity 2011-2020* and the *Aichi Biodiversity Targets*. Also relevant will be reporting of the project in relation to indicators identified in the CBD's *Global Strategy for Plant Conservation* (GSPC). Further, Bioversity's involvement in the development and implementation of indicators on agrobiodiversity as part of the *Global Plan of Action* (GPA) will be included in the M&E activities. It is also envisaged that the project will contribute significantly to the expected first State of the World's Biodiversity for Food and Agriculture, scheduled for 2016/17.


PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Dr. Sergey Myagkov	Deputy Director	NIGMI, UZHYDROMET	08/23/2012

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
J. Christophe Bouvier Director, Office for Operations and Corporate Services, UNEP GEF Coordination Office		July 15, 2015	Marieta Sakalian, OIC GEF Biodiversity/Land Degradation/Biosafety Unit; DEPI UNEP	+39 06570 55969	Marieta.Sakalian@unep.org

ANNEX A. PROJECT RESULTS FRAMEWORK

Project Strategy	Objectively verifiable indicators					
	Indicators:	Baseline	Midterm	End of project	Sources of verification	Assumption
<p>Project Objective:</p> <p>To mainstream the conservation and use of fruit tree biodiversity to enhance ecosystem services and thereby improve the resilience of traditional agricultural production systems in water-scarce environments of Uzbekistan</p>	<p>% increase in the number of globally significant fruit tree biodiversity used to improve ecosystem services and thus resilience of traditional agricultural production systems in water-scarce environments</p>	<p>3,000 hectares -2 sites- of agricultural land in water-scarce environments are planted with fruit tree diversity of global significance, with the number of intra-specific known</p>	<p>Assessment of fruit tree diversity, inter and intra specific, and its distribution, on the 2 sites - 3,000 hectares of agricultural land in water-scarce environments</p>	<p>At least 20% increase in the number of globally significant target fruit tree species and intra-specific diversity with variation in functional traits on 3,000 hectares of agricultural ecosystems in water-scarce environments</p>	<p>National Reports Final Evaluation Report</p>	<p>Uzbekistan maintains economic and political stability and remains committed to fruit tree biodiversity to improve agricultural production systems resilience in water-scarce environments</p>
	<p>A policy recommendation document has been prepared highlighting the importance of the use of fruit tree diversity in water-scarce environments for ecosystem services improvement and therefore ecosystem resilience improvement</p>	<p>At baseline, relevant national plans and strategies show limited awareness of the benefit and value of ecosystem resilience, ecosystem services and access and benefits sharing capacity in traditional agricultural production systems</p>	<p>Project has drafted recommendations for revision of relevant national strategies and plans</p>	<p>At least one politically significant national document drawing attention to the importance of conservation and deployment of fruit tree biodiversity to improve the resilience of traditional agricultural production systems in water-scarce environments by the end of the project</p>	<p>National Reports, Action Plans and Strategies Stakeholders Organizational strategies</p>	<p>Policy-makers, planners, private sector, farmer groups and others make use of and benefit from the available information and integrate it into strategies, plans, and programmes targeting management of environmental risk</p>

		in water-scarce environments				
	An increased number of government and non-government stakeholders who -in a coordinated manner- include fruit tree genetic diversity deployment as one of the strategies to sustainably increase production in vulnerable traditional agricultural production systems in water-scarce environments where they operate	At baseline there is no coordinated effort from government, NGOs and private sector in conservation actions to use fruit tree genetic diversity to buffer against production losses in traditional agricultural production systems	Public awareness materials and lobbying of relevant Ministries, NGOs or private sector to promote best practices for deployment of functional diversity using local plant genetic resources	At least five government agencies, three NGOs and one private seed company routinely promote good practices to deploy fruit tree diversity to sustainably increase production by the end of the project	Annual reports of Ministry of Agriculture and Water Resources of Uzbekistan, Farmers' Union; government agriculture development strategy documents and plans	
Component 1: Mainstreaming mechanisms that use agricultural biodiversity to enhance ecosystem services in water scarce environments.						
	Indicators:	Baseline	Midterm	End of project	Sources of verification	Assumption
OUTCOME 1: Area devoted to sustainably managed fruit tree diversity is increased and ecosystem services are enhanced through greater use of biodiversity in water-scarce agricultural production systems.	Area of land on which farmers use land management systems that enable and affect ecological processes documented and mainstreaming of the beneficial methods into agricultural development	At baseline, the concept of and amount of local functional diversity used in response to environmental stressors in farmers field is negligible	At least one farmer management system per fruit tree species/per site that enable and affect ecological processes are documented and made available to breeders and seed suppliers	20% increase of the area using local functional diversity – through appropriate land management systems- in response to environmental stressors in farmer fields from the baseline figure in project sites	Project reports Progress reports User surveys Training materials and training reports Course curriculum Scientific articles	Farmers see the benefit and value of functional agro-biodiversity, hence will be interested in sustainably managing them

	Number of fruit tree varieties characterized for functional traits that allow the capacity of the fruit tree to evolve and adapt to local conditions (water-scarce environments and degraded lands) for inclusion into extension packages	Characterization and evaluation of locally adapted fruit tree varietal diversity with the capacity to evolve and adapt to local conditions is limited on both sites	30% of the fruit tree varietal diversity of target crops in project sites is evaluated for functional traits	70% of the fruit tree varietal diversity of target crops in project sites is evaluated for functional traits that allow the capacity of the target crops to evolve and adapt to local conditions for inclusion into extension packages		Academic and vocational training institutes and extension agencies fully cooperate and participate in developing, testing and extension of training packages Perverse incentives are not present or can be removed
	Increased number of fruit tree varieties per orchard in areas with land management plans	At baseline, there is a limited number of fruit tree varieties found per orchard	Assessment of the number of fruit tree varieties per orchard and its distribution on both sites	20% increase of the number of fruit tree varieties per orchard on both sites		Fruit tree varietal diversity for functional traits exists or is available within the project communities
	Indicators:	Baseline	Midterm	End of project	Sources of verification	Assumption
Output 1.1 Expanded use of fruit tree varietal (intra-specific) diversity in adverse and degrade landscapes to improve water use efficiency, reduce pest and disease damage, and increase pollination levels.	Number of varieties and forms (cultivars) from target crops assessed for their resilience to water scarcity based on farmer knowledge and empirical data using previous research results	At baseline, fruit tree varieties are not formally assessed for a better use of the water source and knowledge on the subject is not organized.	Assessment of a selection of varieties and forms for their resilience to water scarcity based on farmer knowledge and empirical data using previous research results	10% increase of the number of identified relevant fruit tree varieties and forms for a better use of the water source (to lower competition for water use within orchards).	Project progress report Project annual report Scientific articles	Partners have capacity to use economic valuation tools Resource constraints do not limit adoption of some practices

	Number of hectares of orchards/farmer plots with relevant fruit tree diversity established in water-scarce environments with adverse environmental factors including degraded land	At baseline, water competition between crop trees is important in orchards in both sites.	Assessment of water needs for the various fruit tree varieties found in orchards and of existing water stress.	Water stress is reduced (by 20%) in orchards	in peer reviewed journals Master theses	Stable and favorable political environment Policy makers' and partners' commitments
	Number of extension or development workers that have the knowledge and understanding of the role of fruit tree diversity to provide ecosystem services and use this knowledge where they work.	At baseline, relevant national plans and strategies show limited awareness of the benefit and value of agro-biodiversity to support ecosystem services	Indicators to monitor the role of fruit tree diversity of the target project fruit tree species in promoting higher levels of pollination, regulating pest and diseases, and improving water soil management are developed	50% of researchers, scientists and extension and development workers, at least 1/3 of which are women that promote the use of fruit tree diversity as a provider of ecosystem goods and services	Project progress report Project annual report Master theses Project reports comparing baseline data to final project survey data Scientific articles in peer reviewed journals and other scientific publications	Partners have capacity to use economic valuation tools Resource constraints do not limit adoption of some practices Stable and favorable political environment Policy makers' and partners' commitments
	Reduction of spread, length and distribution of pest and diseases in project sites and reduction of pesticides treatments due to on-farm implementation of the systems in place in demonstration plots as	At baseline pest and diseases are a real bottleneck to fruit tree production and require the use of pesticides	Assessment of the spread, length and distribution of pest and diseases in both project sites	Measurable reduction of spread, length and distribution of pest and diseases 15% reduction of pesticides needs and use		

	diversity rich practices replace pesticide use.					
	Increase of fruit tree production through better pollination from tree varietal diversity and the use of mutually pollinated varieties	At baseline the level and quality of fruit tree production is affected by the lack of pollination	Assessment of fruit tree production (quality and quantity) linked to pollination services	10% increase of fruit tree production (quantity and quality (size/taste/nutritional aspects)) through better pollination from varietal diversity and the use of mutually pollinated varieties	Guidelines and protocols Scientific publications Training materials for farmers, extension workers and research groups Project progress reports	Farmers on-site are cooperative Farmers have understanding and awareness about use of crop diversity
	Indicators:	Baseline	Midterm	End of project	Sources of verification	Assumption
Output 1.2 Land management plans for water-scarce and degraded land, which include the use fruit tree varietal diversity, are developed and implemented and farming communities, extension and public government organizations have the capacity and	Development of improved land management plans for water-scarce environments and degraded lands that include fruit trees	At baseline land management plans don't include the use of fruit tree varietal diversity	At least one land management plan developed in each project site, which include the use of fruit tree varietal diversity to sustainably increase production in water-scarce environments and degraded lands.		Project progress report Project annual report Land management documents and policies	Stable and favourable political environment Committed policy makers and partners

leadership abilities to carry them out.	Number of extension or development workers - having the knowledge and understanding of the role of fruit tree diversity to provide ecosystem services- using and disseminating relevant land management plans developed during the project duration	At baseline, relevant national plans and strategies show limited awareness of the benefit and value of agrobiodiversity to support ecosystem services	Indicators to monitor the role of crop genetic diversity of the target crop in promoting higher levels of pollination, regulating pest and diseases, and improving water soil management are developed	50% of researchers, scientists and extension and development workers (at least 1/3 of which are female) that promote the use of crop genetic diversity as a provider of ecosystem goods and services	Project progress report Project annual report Scientific articles in peer reviewed journals Master theses	Partners have capacity to use economic valuation tools Resource constraints do not limit adoption of some practices
	Number of partnerships established among key stakeholders: extension services, research institutes and men and women farmer groups	Essential partnerships to build leadership capacity and to facilitate stakeholders participation in leadership and decision making roles are not in place	Round tables to raise awareness among key stakeholders	Significant partnerships are established	Project progress report	Farmer, extension and public government staff interest remains unchanged Farmers and other community members have time and opportunity to participate in the process
Component 2: Increasing the use of fruit tree biodiversity that enhances ecosystem regulating services in water-scarce environments.						
	Indicators:	Baseline	Midterm	End of project	Sources of verification	Assumption
OUTCOME 2: Farmers benefit from having increased availability of locally adapted materials to improve ecosystem resilience	Number of public and public-private partners committed to multiplying, supplying, and marketing promising planting materials with inter and	Limited public and public-private systems that promote increased access to	Strategy developed for the public-public and public-private partners in the project to commit resources to explore	50% of the public-public and public-private partners in the project commit resources to explore local fruit tree genetic	Project progress report	Partner organizations are willing to cooperate

through better regulation of pollination service levels, diseases and arthropod pests, land degradation, and water use efficiency.	intra-specific fruit tree varieties	diversified materials	local fruit tree genetic resources valued by small holder farmers	resources valued by small holder farmers	Mid-term and final evaluation reports Financial reports of partner organizations	National Genebanks, Ministry of Agriculture and Water Resources and other agencies support distribution of materials
	Number of local institutions in and around both project sites with the capacity to access, multiply, and disseminate diversified planting materials	Local institutions in project sites areas lack the capacity to access, select and multiply planting materials that are not promoted by private seed companies	Four community based organizations have information to improve their access, selection, multiplication and supply of appropriate planting materials	Eight community based organizations supply at least one promising local planting material from each project site to private seed companies for promotion and sale	Seed/planting material balance sheet of companies Seed collection and sales record	
	Indicators:	Baseline	Midterm	End of project	Sources of verification	Assumption
Output 2.1 Local fruit tree functional varietal diversity is available and accessible to farmers to use in their production systems.	Grafting materials of local fruit crop varieties with traits of interest to water scarcity, salinity, pest and disease and pollination are made available to commercial nurseries and farmers' nurseries	Commercial nurseries and farmers' nurseries have no sufficient access to grafting materials of local fruit crop varieties	Grafting materials prepared and issued for selected commercial nurseries and farmers' nurseries	At least 50% of materials in commercial and farmer's nurseries are locally diverse adaptive planting materials.	Project progress reports Annual reports of nurseries	Stakeholders are open to the adoption of diversity-rich approaches
	Amount of saplings distributed by farmer and formal nurseries through diversity fairs and formal markets	Farmer and formal nurseries don't provide diversity fairs and formal markets with saplings of diversified and	Saplings of diversified and adapted fruit tree varieties are produced by farmer and formal nurseries and partnership	At least 20, 000 saplings are distributed by farmer and formal nurseries through diversity fairs and formal markets	Seed/planting material balance sheet of companies	Ministry of Agriculture and Water Resources and other agencies supporting

		adapted fruit tree varieties	contacts are established with diversity fairs and formal markets		Seed collection and sales record	distribution of materials
	Number of national sapling suppliers that have increased their capacity to promote locally adapted planting materials	National sapling suppliers scarcely use and promote the use of locally adapted planting materials	Awareness raised and adapted materials are provided to national sapling suppliers	At least three national sapling suppliers have increased capacity to promote adaptive planting materials, one of which is female		
	Number of farmer communities with access to public and public-private systems that promote increased access to locally adapted materials in population sized large enough to increase the resilience of agricultural production systems.	Limited access to suitable genetic materials in the form of saplings and other planting materials available to small holder farmers in water-scarce environments.	30% of beneficiaries in project areas have access to seeds of their choice through Diversity Kit distribution mechanism	80% of beneficiary farmers (men and women) in project districts in mountainous areas have sustained and affordable access to quality planting materials		
	Indicators:	Baseline	Midterm	End of project	Sources of verification	Assumption
Output 2.2 Farmer information systems and market information mechanisms for growing local fruit tree varietal diversity are in place.	Number of Community Biodiversity registries as information sources for farmers	At baseline, there is no Community Biodiversity register to provide communities with information on local varieties	Development of Community Biodiversity registries	At least 1 Community Biodiversity register is developed on each project site.	Local communities feed-back Project progress reports	Local famers have an interest in local varieties with relevant traits

	Establishment of Consultant Centres to inform farmers on traits of interest per variety in the project context	At baseline there are no centres to inform farmers on variety traits	Training of consultants to join the Consultant Centres	2 Consultants Centres are created by the end of the project		
	Number of local farmers aware of the existence of the importance of the variation of functional traits for local varieties with traits of interest to water scarcity, salinity, pest and disease management and pollinator	At baseline local farmers are seldom aware of the importance of the variation of functional traits for local varieties in respect to water scarcity, salinity, pest and disease management and pollinator varieties	Raised awareness on the variation of functional traits for local varieties in respect to water scarcity, salinity, pest and disease management and pollinator varieties	At least 500 farmers (50% men and 50% women) per project site are aware of the importance of the variation of functional traits for local varieties in respect to water scarcity, salinity, pest and disease management and pollinator varieties		Extension workers and consultants are fully aware of the importance of dynamic information system and of the importance of the variation of functional traits for local varieties
	Percentage increase of market dynamism and quality or exchanges among producers, buyers and consumers	Market dynamism regarding local fruit tree varietal diversity is low	Assessment of market dynamism	10% increased exchange taking place linked to local fruit tree varietal diversity	Local communities feed-back Market registers	Stable and favourable political environment and thus good and stable market conditions
	Public-private partners in the project commit resources to explore local plant genetic resources valued by small holder farmers	Markets mechanisms have not been yet explored	Participatory market analysis	50% of the public-private partners (at least 10% of which are female) in the project commit resources to explore local plant genetic resources valued by small holder farmers	Project progress reports Local communities feed-back	Committed policy makers and partners, producers, buyers, consumers

Component 3: Promoting an enabling environment for access and benefit-sharing mechanisms that recognize and enhance the custodians of ecosystem services.						
	Indicators:	Baseline	Midterm	End of project	Sources of verification	Assumption
Outcome 3: Options for national access and benefit sharing laws identified to support the promotion of ecosystem services within agricultural production systems.	Uzbekistan government acknowledges the importance of ABS of diversified planting material and makes statements on the issue.	At baseline, the importance of ABS of diversified planting material is not fully acknowledged	Higher awareness of the stakeholders in Ministries involved (Agriculture and Nature Protection)	A few statements on the importance of ABS of diversified planting material are made by the country	Policy briefs	Committed policy makers and partners
	Uzbekistan government acknowledges the importance of the use of fruit tree biodiversity in food security, rural development and land management policies	At baseline, existing policies, development strategies and legal framework need to be reviewed whether the documents are fruit tree biodiversity friendly	Higher awareness of the stakeholders involved in policies, development strategies and legal framework development	At set of amendments is recommended to policies, development strategies and legal framework		
Output 3.1 Options for national access and benefit sharing (ABS) laws identified to support the promotion of ecosystem services within agricultural production systems.	National policy makers promote alternative methods of variety development and dissemination.	No alternative methods of variety development and dissemination promoting ABS of diversified planting material	Recommendations are made towards promoting alternative methods of variety development and dissemination	Policy makers promote at least one alternative method of variety development and dissemination.	Policy briefs	Committed policy makers and partners
Output 3.2 Recommendations and strategies drafted that promote diversified fruit tree biodiversity in food security,	Amendments to existing policies, development strategies and legal frameworks are recommended to better	At baseline, existing policies, development strategies and legal framework do not	Awareness is raised among stakeholders and	At least two amendment is recommended and a revised Uzbekistan	Policy briefs	Committed policy makers and partners

rural development and land management policies at national (Biodiversity strategy) and international (Nagoya Protocol) levels.	serve the need of vulnerable farmers including revised Biodiversity Strategy	put enough emphasis on the use of fruit tree biodiversity	recommendations are developed	national Biodiversity Strategy is developed		
	Draft documents for the ratification of the Nagoya Protocol by Uzbekistan	At baseline, Uzbekistan has not initiated the process towards the ratification of the Nagoya Protocol	Awareness raised and capacity built to facilitate the ratification of the Nagoya Protocol	Approved last draft documents for the ratification of the Nagoya Protocol by Uzbekistan		

ANNEX B. RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

RESPONSE TO GEF SECRETARIAT REVIEW

Items to consider at CEO endorsement/approval. (FSP)	Response
<p>Yes, appropriate activities to address the key systemic barriers (policy and strategic) on mainstreaming fruit tree biodiversity conservation and use have been incorporated at this stage. The PM recommends that further measures, including possibility to reform national agriculture policy and other relevant policies, to be clarified during the PPG phase. The approach and activities on systemic issue, including relevant policy, insitution, and management plan needs to be substantiated by CEO approval. The PM recommends the PIF and PPG for CEO approval.</p>	<p>The CEO endorsement document has been prepared in consultation with Uzbekistan stakeholders to expand activities to build national capacity to provide recommendations to reform national agricultural policy. These are described under <i>Output 3.2: Recommendations and strategies drafted that promote diversified fruit tree biodiversity in food security, rural development and land management policies at national (Biodiversity strategy) and international (Nagoya Protocol) levels.</i></p> <p>This is now described in CEO endorsement document under Output 3.2 (page 11-12) and detailed in the project work plan: Annex F in Activities, 3.2.1, 3.2.2, 3.2.3, 3.2.4, and 3.2.5. See below</p> <p><i>OUTPUT 3.2 (page 11-12):</i></p> <p><i>The project will analyse the existing national policies on food security, rural development and land management policies and regulations to identify the gaps related to providing support to farmers and local communities in mainstreaming diverse agricultural biodiversity to cope with water scarcity and other unfavourable environment stresses in their production systems. Workshops and round table discussions to increase knowledge of national agricultural extension service and government agencies on role of fruit tree biodiversity in sustainable agricultural production in water-scarce environment will also be organized. The project will also study the current status of linkages among all actors involved in agriculture production, land and water resources management and agro-biodiversity maintenance including decision makers, farmer communities, researchers, extension service, private agencies and civil organizations at local and national level. This will help to formulate sound proposals for strengthening policy and development of strategic alliance among stakeholders. Agreed proposals will be submitted to relevant government agencies according to formal procedures. The project will strengthen coordination and partnership framework among stakeholders (national extension, research institutes, civil society, private sector and policy making agencies at local and national levels) involved in conservation and utilization of natural resources in the country, including land, water, biodiversity resources management at all levels: local, regional and national. Farmer groups and local communities, research institutions, civil society organizations, development agencies, local authorities and national ministries will be brought together to formulate sound policy supporting fruit tree diversity deployment, utilization of local fruit tree diversity for adaptation to changing environment and ensuring sustainable production, access to diversified germplasm, access to increased knowledge, application of bette practices. Linkages will be strengthen among farming communities and local and national extension</i></p>

and research staff to support knowledge sharing and mainstreaming of these practices through the Uzbek agriculture extension system.

Uzbekistan has been revising its strategic plans on biodiversity conservation and use where the risks of agro-biodiversity loss will be recognized and aspects of its maintenance in the production systems will be addressed. This provides the appropriate framework for development of policy recommendations in Uzbekistan that use fruit tree genetic diversity and are relevant to farmers needs at local, regional and national level. In this area the project will build on, and further develop, recent work supported by UNEP-GEF on “In situ/on farm conservation of agricultural biodiversity (horticultural crops and wild fruit species) in Central Asia” on strengthening national policies on conservation of wild fruit species in natural habitat, supporting farmers in sustainable management of local diversity of fruit trees in their orchards, recognition of farmers’ rights as custodians of agro-biodiversity. Specific policy recommendations will be developed for mainstreaming of diversified fruit tree portfolio into land use management plans that influence the production systems. Proposals will be developed for the inclusion of conservation and sustainable utilization of local fruit trees biodiversity as an important component of agro-ecosystems in the chapter on the agro-biodiversity conservation and utilization of the revised version of the National Biodiversity Conservation Strategy and National Action Plan. Proposals after stakeholder consultation will be submitted to the Inter-agency Working Group on revision.

- Activity 3.2.1 Analyze existing national policies on food security, rural development and land management and identify gaps related to the use of local agro-biodiversity to ensure sustainable agriculture development in water-scarce environments*
- Activity 3.2.2 Study international experience (other national Biodiversity strategies, documentations for ratification of the Nagoya Protocol) and assess the potential benefits for Uzbekistan from adoption of new strategies - that promote diversified fruit tree biodiversity in food security, rural development and land management policies- and from ratification of the Nagoya Protocol.*
- Activity 3.2.3 Develop proposals to promote diversified fruit tree biodiversity in food security, rural development and land management policies - revised version of the National Biodiversity Conservation Strategy and National Action Plan - and develop documentation for the ratification of the Nagoya Protocol*
- Activity 3.2.4 Organize workshops and round table discussions with all stakeholders groups -including farmers, researchers, NGOs and policy makers- to increase knowledge on role of fruit tree biodiversity in sustainable agricultural production in water-scarce environment and to discuss and finalize the developed proposals and documentation.*

	<ul style="list-style-type: none">• <i>Activity 3.2.5. Submit the agreed proposals and documentation to relevant government agencies according to formal procedure in place</i>
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ANNEX C. STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

PPG Grant Approved at PIF: USD \$50,000			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF/NPIF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
Personnel component	30,000	30,000	0
Training component	15,000	15,000	0
Miscellaneous component	5,000	5,000	0
Total	50,000	50,000	0

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

N/A