



# PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project

THE GEF TRUST FUND

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Submission Date: 11/06/2009

## PART I: PROJECT IDENTIFICATION

**GEF PROJECT ID:** PROJECT DURATION: 60 months  
**GEF AGENCY PROJECT ID:**  
**COUNTRY(IES):** Sri Lanka  
**PROJECT TITLE:** Mainstreaming agrobiodiversity conservation and use in Sri Lankan agro-ecosystems for livelihoods and adaptation to climate change  
**GEF AGENCY(IES):** UNEP,  
**OTHER EXECUTING PARTNER(S):** The Ministry of Environment and natural Resources, Sri Lanka; The Department of Agriculture, Sri Lanka, The Platform for Agrobiodiversity Research, Rome, Italy, Bioversity international, Rome, Italy  
**GEF FOCAL AREA (S):** Biodiversity  
**GEF-4 STRATEGIC PROGRAM(S):** BD-SP4; BD-SP5  
**NAME OF PARENT PROGRAM/UMBRELLA PROJECT :**NA

INDICATIVE CALENDAR	
Milestones	Expected Dates mm/dd/yyyy
Work Program (for FSP)	March 2010
CEO Endorsement/Approval	December 2011
Agency Approval Date	February 2012
Implementation Start	February 2012
Mid-term Evaluation (if planned)	August 2015
Project Closing Date	January 2017

### A. PROJECT FRAMEWORK

Project Objective: To ensure that agrobiodiversity in Sri Lanka is optimally conserved and used to meet the challenges of climate change and improve rural livelihoods								
Project Components	ST A TA	Expected Outcomes	Expected Outputs	Indicative GEF Financing <sup>a</sup>		Indicative Co-Financing <sup>a</sup>		Total (\$) c = a + b
				(\$) a	%	(\$) b	%	
<b>1. Adaptive management that enhances food production systems while maintaining ecosystems functioning and resilience</b>	STA/ TA	Area devoted to sustainably managed agrobiodiversity increased through mainstreaming practices, procedures, institutions, and materials by local communities	Improved sustainable management practices that support traditional crop and livestock varieties, crop wild relatives, medicinal and agroforestry species, pollinators and other insects in pilot sites in 3 selected landscapes.	480,000	32.88	980,000	67.12	1,460,000
			Knowledge management and sharing practices such as farmer field fora and agrobiodiversity registers adopted by participating communities in pilot sites in 3 selected landscapes.					
			Sustainable management guidelines for selected medicinal and agroforestry species agreed by communities in pilot sites in 3 selected landscapes.					
			Guidelines for promoting participatory and agrobiodiversity friendly practices available and used by selected agricultural development and extension programmes in 3 selected landscapes					
		Farmers, local	New plant and livestock					

		communities and national organizations have available new materials to meet changing needs and are able to adapt new materials to target agro-ecosystems.	diversity adapted to changes in climate from genebanks and participatory crop and livestock improvement are available and tested by participating communities in pilot sites in 3 selected landscapes.  Procedures for identifying at risk crop and livestock materials, crop wild relatives, agroforestry and pollinator species available for national agrobiodiversity management and complemented by procedures for identifying and sourcing relevant new diversity					
		Farmer, local communities and national organizations are using appropriate simple and reliable methods and indicators for measuring and monitoring agrobiodiversity and for detecting change as part of their management strategies for coping with climate change	Indicators that measure state and change in key components of agrobiodiversity (crops and their wild relatives, livestock, agroforestry species, pollinators and other insects) developed, tested and available at local (pilot sites) and national levels.  Monitoring programmes in use for crops, and their wild relatives, medicinal and agroforestry species, livestock and pollinators at local and national levels supported by operational national information systems.					
<b>2. Improved production and cost-control that maintains adaptive capacity and promotes diversity</b>	TA	Mechanisms are in place that provide farmers with additional rewards (improved income from gains from increased production, well-being, better cost-control e.g. reduced external inputs) from maintenance and use of the agrobiodiversity and increased returns for specific products (any market pull that could offer any benefits for farmers)	Local Exchange and Trading systems are adapted and developed to support agrobiodiversity maintenance in pilot sites in 3 selected landscapes.  Local markets make available seed of traditional varieties and other relevant agrobiodiversity friendly inputs.	280,000	26,42	780,000	73,58	1,060,000
			International and national marketing opportunities identified for key high value spice and medicinal plant products produced using agrobiodiversity friendly practices.					

			Project has facilitated increased micro-credit access for those involved in agrobiodiversity friendly businesses.					
<b>3. Institutional frameworks, capacity and representative partnerships</b>	TA	National strategies and capacity on planning for sustainable food production using an ecosystem management approach strengthened  Outreach and extension activities have fully integrated and implemented agrobiodiversity and ecosystem perspectives in 3 regions	National network of experts and policy makers established to form national expert's advisory group on planning for sustainable food production and ecosystem management.  Sri Lanka national agrobiodiversity strategy provides framework for relevant components of national programmes and actions.  Trained national and regional extension and outreach staff in 3 regions provide support to farmers on agrobiodiversity maintenance and use and the introduction of new materials.	300,000	30,61	680,000	69,39	980,000
			Programmes of Sri Lanka Research and Development (R&D) organizations identify multidisciplinary research and development work on integrated agrobiodiversity management and maintain relevant information systems to manage agrobiodiversity.  Agrobiodiversity awareness by policy makers is enhanced and its conservation and use constitute a recognized component of national policy implementation.					
<b>4. M&amp;E</b>				245,455	46,76	279,520	53,24	524,975
<b>5. Project management</b>				145,000	28,71	360,000	71.29	505,000
<b>Total project costs</b>				<b>1,450,455</b>		<b>3,079,520</b>		<b>4,529,975</b>

**B. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE and by NAME (in parenthesis) if available, (\$)**

Sources of Co-financing	Type of Co-financing	Project
Sri Lanka Government Contribution	Cash and In-kind	1,639,520
GEF Agency(ies)	(select)	
Bilateral agencies	(select)	500,000

Multilateral Agencies – Bioversity International and others	(select)	800,000
Private Sector	Cash and In-kind	120,000
NGO	Cash and In-kind	20,000
Others	(select)	
<b>Total Co-financing</b>		<b>3,079,520</b>

### C. INDICATIVE FINANCING PLAN SUMMARY FOR THE PROJECT (\$) N.A

	Previous Project Preparation Amount (a)	Project (b)	Total c = a + b	Agency Fee
GEF financing	0	1,450,455	1,450,455	145,045
Co-financing	0	<b>3,079,520</b>	<b>3,079,520</b>	
<b>Total</b>	<b>0</b>	<b>4,529,975</b>	<b>4,529,975</b>	<b>145,045</b>

### D. GEF RESOURCES REQUESTED BY AGENCY (IES), FOCAL AREA(S) AND COUNTRY(IES)<sup>1</sup>

GEF Agency	Focal Area	Country Name/ Global	(in \$)		
			Project (a)	Agency Fee (b)	Total c=a+b
(select)	(select)				
<b>Total GEF Resources</b>			0	0	0

<sup>1</sup> No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

## PART II: PROJECT JUSTIFICATION

### A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED:

Sri Lanka is a biodiversity centre of worldwide significance which possesses globally significant agricultural ecosystems and agrobiodiversity that is central to the livelihood strategies of small-scale farmers, rural communities and indigenous peoples. It is currently estimated that about 1.8 million families and 75% of the country's labour force depend on agriculture and on the diversity in agro-ecosystems which includes some 237 fruit species, 82 vegetable species, 16 cereal and legume species, 20 species of spices, 1550 medicinal plant species, 20 species of edible freshwater fish and over 133 species of bees.

The conservation of biodiversity is of special significance to Sri Lanka in the context of its predominantly agriculture-based economy and the high dependence on many plant species for food, medicines and domestic products. The rich and diverse ecosystems of the country harbour many wild relatives of cultivated species, and the genepools represented by these wild plants, and cultivated species, are a national and global resource of significant importance and potential.

Unique within species diversity is also present and constitutes a particularly important component of livelihood strategies and culture of the country. Despite some genetic erosion, rice varieties can still be found with diverse grain qualities, nutritional status, adaptability to climatic conditions and maturity characteristics. Unique intra-specific diversity can also be found for finger millet, several leafy vegetables, *Dioscorea alata* (yams), banana and mango. Associated with this diversity is a large repository of traditional knowledge. For example there are over 27 different vernacular names among Sri Lankan rural communities for *Dioscorea alata* L.

Home garden maintenance of agrobiodiversity ensures conservation of a diversity of spices (pepper cloves and nutmeg among others) and medicinal plants on which indigenous medical practitioners depend, and which constitute an integral component of the agricultural landscape of Sri Lanka. These species provide significant income opportunities for rural communities.

Complementing the rich inter and intra-specific diversity of plant species in agro-ecosystems is the diversity found in cattle and poultry in the country (shown to possess high genetic variability) and the substantial diversity of other key components

of sustainable agriculture production such as agroforestry species and pollinators. Sri Lanka also possesses significant numbers of important crop wild relatives (e.g 5 *Oryza* spp. , 8 *Vigna* spp.) and GEF supported work has clearly established the need to integrate their protection into the management practices of agro-ecosystems outside protected areas.

Substantial threats exist to this diversity. The adoption of high yielding varieties and less sustainable production practices have resulted in significant loss of diversity in major crops such as rice. Urbanization, conflict and population increase coupled with development strategies, that reflect particular development perspectives and do not internalize the economic value of diversity and of agricultural ecosystem services, have also had a significant impact on agricultural diversity. Additionally, unplanned land use, pollution and fragmentation contribute to loss of agrobiodiversity.

Traditional breeds of scavenging poultry, many of which are resistant to globally-important tropical infections, and which were common in villages before the 1960s are rapidly disappearing because of preferences for imported germplasm. A growing number of medicinal plants are becoming increasingly rare and under threat of extinction, currently around 80 wild plant species with medicinal properties are considered threatened, largely as a result of the growing demand. The traditional homegardens have been a repository for agrobiodiversity for thousands of years. In recent years, the homegarden system have suffered badly due to land fragmentation and population increase.

In addition the barriers and constraints to the successful conservation and use of Sri Lankan agrobiodiversity include:

- Limited research emphasis on agrobiodiversity conservation as well as ethno-biological aspects of agrobiodiversity;
- Lack of coordination and collaboration among relevant stakeholders and resulting poor support to traditional agrobiodiversity conservation and systems such as homegardens, including credit and technical assistance;
- Poor access of farmers to seed materials of indigenous varieties and information;
- Poor provision of economic incentives for the popularization of agrobiodiversity friendly farming practices;
- Absence of a focus on market support and policy for products from indigenous crops and livestock;
- Lack of concern for informal seed supply and traditional varieties and breeds to support livelihoods of farming communities;
- Absence of policy and advocacy to integrate traditional agrobiodiversity conservation methodologies and practices into the formal education system, which is presently geared towards modern methods;
- Climate change

The government of Sri Lanka recognizes these barriers and the associated problem of agrobiodiversity loss at a number of levels and has developed a strategy which addresses maintenance of agrobiodiversity in different ways. However, additional efforts are needed to coordinate and bring together the relevant national agencies and to integrate current initiatives, to improve involvement of, and benefits to, farmers and communities and, most specifically to address the additional threats to diversity from climate change.

Climate change consideration is also important because it not only represents a significant additional threat to agrobiodiversity, it also requires a substantially increased use of agrobiodiversity to maintain resilience and adaptability in agro-ecosystems. Recent studies have suggested that, without deliberate interventions, over 20% of crop wild relative species of some important food crops are at risk<sup>1</sup> and the threats to the genetic diversity present within crops, medicinal species, livestock and pollinators may be even greater.

In Sri Lanka specific threats to agrobiodiversity from climate change include increase in temperature, changes in rainfall distribution pattern resulting in more frequent floods, droughts, land slides and other extreme events and increased salinity of coastal water resources where substantial production and diversity occurs. Agriculture production in Sri Lanka is heavily dependent on the rainfall pattern as well as its amount and the expected changes are likely to lead to yield reduction, quality changes (especially in fruit crops) and increased pre-harvest and post-harvest losses. The unique agrobiodiversity found in the dry zone tank system will also be highly vulnerable to changes in rainfall pattern as this system completely depends on rainfall. Heat stress due to increasing temperature will affect the reproduction of livestock making local breeds vulnerable

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<sup>1</sup> Jarvis A, et al, 2008. The effect of climate change on crop wild relatives. *Agriculture, Ecosystems and Environment* 126, 13-23

The proposed project is based on the premise that, while agrobiodiversity remains central to the livelihood strategies of many rural farmers and communities in Sri Lanka, its continuing maintenance depends on mainstreaming more effectively the benefits from its appropriate management and use. Recognizing the importance of climate change to agrobiodiversity maintenance and use, the project will also address the development of appropriate strategies and actions that will ensure that agrobiodiversity supports the resilience, adaptability and transformation that will be needed, thus maximizing effective conservation.

The aim of the project is to ensure that rural communities are able to maintain and adapt traditional materials to their production needs, including the introduction of new diversity where appropriate. The project will strengthen the national capacity to identify, develop and implement sustainable agricultural production systems that will enhance food production systems while maintaining ecosystems functioning and resilience. The project takes account of the need to adopt an integrated approach, combining management of crop, livestock and other components of agrobiodiversity as is done by farmers and rural communities. An ecosystem approach operating at a landscape scale will be adopted for work in three different areas of Sri Lanka rich in unique agrobiodiversity and possessing important wild diversity such as species of crop wild relatives. Supporting community based activities will be a series of actions at country level designed to ensure that the national framework is strengthened for maintaining different components of agrobiodiversity (crops and their wild relatives, livestock, agroforestry species, pollinators and other insects, soil organisms) in ways that support farmer needs.

To achieve the **objective** of this project, to ensure that agrobiodiversity in Sri Lanka is optimally conserved and used to meet the challenges of climate change and improve rural livelihoods, the abovementioned challenges, barriers and threats must be addressed. Primarily is the lack of national coordination and integration among different agencies and policies. The lack of coordination, integration and capacity is contributing to poor extension support to farmers and communities. This project, using a participatory approach, will attempt to address these challenges and barriers through strategic interventions at the national and local levels in selected locations in 3 agricultural landscapes through the 3 components elaborated below:

**1. Adaptive management that enhances food production systems while maintaining ecosystems functioning and resilience.** The first component is concerned with the maintenance of diversity in production systems. It will involve support for those agrobiodiversity rich practices that are already part of the livelihood strategies of the target communities (through support both for the management practices themselves and for the social institutions which are essential to their operation – such as informal seed systems). The component will also involve the development, testing and integration of a range of relevant adaptive management practices. Many of these have already been developed in other projects but, as noted above, these projects have focused on single crop, livestock, pollinator or soil based outcomes. The practices developed for these different components have not been tested together in ways that reflect the integrated nature and realities of small-scale farming. The emphasis will therefore be on how these different practices can best be brought together, on identifying any associated trade offs and, in particular, on which practices are most sensitive to, or useful under, climate change. The component will be concerned both with provisioning ecosystem services (maintenance of productivity and production objectives and food security) and with regulating, supporting and cultural services. Practices which strengthen adaptability, stability and resilience will be particularly important, having been identified as significantly at risk in IPCC reports. The work will involve participatory and multidisciplinary approaches focused on farmers and communities and will pay particular attention to strengthening social institutions involved in diversity maintenance (e.g. informal seed systems). The results will be the adoption by farmers of practices which improve stability, resilience and diversity in production systems where these are identified as improving livelihood options and adaptability.

Not all climate change challenges are likely to be met by the appropriate use of existing materials and existing practices. Indeed a major challenge in adaptation will be to make available appropriate new materials and practices that fit into existing management frameworks and secure the maintenance of livelihoods for rural communities. This will involve finding alternatives to simple replacement, one size fits all approaches that have characterized many agricultural development programmes and frequently led to loss of diversity, a range ecosystem services and resilience in production systems. Regional and national sectors will play a key role in this, adopting participatory approaches that ensure the availability of materials relevant to farmers needs.

Innovation, knowledge sharing and learning will also be a key element of this component. A variety of approaches have already been tested in different projects including IPM Farmer Field Schools and crop diversity Farmer Field Schools.

These will be further supported in Sri Lanka by the active national and regional outreach programmes and will provide farmers and communities with new knowledge as well as helping to sustain and share traditional skills and wisdom.

In order to be able to develop effective conservation responses to any changes in agrobiodiversity that are believed to be associated with climate change, an adequate system of assessment and monitoring is needed. Indicators of change will be needed at farm, community and national levels. Different indicators may well be needed at different levels – what a farmer and community need to be aware of may well be different from what a country needs to know. Existing indicators and those being developed in other projects will be tested and used to provide relevant ways in which changes can be detected and monitored. A key contribution of the project of global significance will be the development of indicators that can be used by communities to develop awareness of changes in the diversity present in the agro-ecosystems they manage. At national level the emphasis will be on strengthening existing national biodiversity information systems (e.g. those developed in Sri Lanka for crop wild relatives and traditional knowledge through the UNEP/GEF project “*In situ* conservation of crop wild relatives through enhanced information management and field application”) and on developing ways in which they can be used to provide useful national indicators of state and change in agrobiodiversity.

## **2. Improved production and cost-control that maintains adaptive capacity and promotes diversity.**

The second component will focus on the livelihood and income generation aspects of agrobiodiversity maintenance and use. It will have two aspects and both will be supported by the project facilitating better access to already established micro-credit schemes in the pilot project sites (schemes that currently exist and which may be relevant include the Dry Zone Livelihood Support Partnership Programme; the Small Farmers and Landless Credit Programme; Small Holder Plantation Entrepreneurship Development Project; Poverty Alleviation Micro Finance Project Revolving Fund Loan Scheme). One will be concerned with the general livelihood benefits rural communities realize from the appropriate use of agrobiodiversity in terms of food security, nutrition, local availability of necessary products (timber etc.) reduced need for external inputs such as pesticides and local market opportunities. The other will focus on national and international marketing opportunities for high value products such as those from fruit, medicinals and spices.

The first aspect will be addressed through (i) analysis of local market (community and district) practices and procedures to identify opportunities and barriers to sale and exchange of biodiversity rich products, (ii) identification of opportunities and technologies that can support local distribution and exchange (storage, community level processing, pricing information) and (iii) development of marketing approaches demonstrated to support local marketing in other projects (especially those shown to be effective for underutilized crops, honey, semi-processed materials etc.). The focus of this aspect will be on local availability of local materials to improve resilience and stability and food sovereignty for producers and consumers. Using participatory community based approaches the project will strengthen local institutions central to maintenance of agrobiodiversity such as local seed supply systems, exchange mechanisms and traditional knowledge of materials and products (e.g. cookery, processing and storage options)

The other aspect will be concerned with work on ensuring that the value of agrobiodiversity and its products is enhanced with production systems. This component will focus on market value and product perspectives. Adopting a market chain perspective the project will seek to strengthen market opportunities for products that enhance biodiversity maintenance objectives - a greater range of fruits, vegetables, pulses, medicinal plants and other products. The primary focus will be on fruits, spices and medicinals. Collaboration will be developed with the private sector to explore the extent to which the agrobiodiversity rich market chain approach can be developed as has been successfully done for a number of underutilized species in different countries around the world. The benefits of product labeling will be determined and the form that this should take, product diversity, pricing and distribution studies will be undertaken and relevant results mainstreamed into partner communities, policy analyses will be undertaken and links developed with other groups working on key barriers to improve market access such as EU regulations.

**3. Institutional frameworks, capacity and representative partnerships.** The third component involves the further development of appropriate policies and institutional frameworks to support farmers and communities and ensure that national food production planning fully embeds and reflects the importance of maintenance and use of agrobiodiversity to ensure ecosystem functioning and resilience.. Sri Lanka has developed its own strategic plans on agrobiodiversity which provide the appropriate framework for the implementation of this component. The International Treaty on Plant Genetic

Resources for Food and Agriculture, Global Plan of Action for Animal Genetic Resources (ITPGRFA), Global Pollinator Initiative all contain specific policy recommendations. The project will identify policy elements of direct relevance to Sri Lanka and carry out a range of activities designed to facilitate their implementation, drawing on the experience of Bioversity International's Global Policy Research Initiative and an ongoing FAO/Bioversity project on implementing the ITPGRFA. Other important actions will include the development of agricultural support policies that are biodiversity friendly and relevant to farmers needs at local, regional and national level, the training of agricultural outreach and extension staff so that they can support the process and the development of active Research and Development programmes in Sri Lankan institutions to provide new knowledge and investigate the problems that will inevitably occur as climate change presents farmers for example with new biotic and abiotic stress problems. In this area the project will build on, and further develop, recent work supported by UNEP GEF on the conservation of crop wild relatives.

In addition this component will include targeted capacity development, educational and public awareness activities that will ensure that agrobiodiversity relevant approaches become better integrated into national and regional planning than they are at present. Sri Lanka has already initiated a number of specific activities in certain areas but the project will allow these to become integrated more effectively into national planning for food security, agricultural development and environmental management.

In adopting an integrated approach through the three components described above the project breaks new ground in a number of ways:

- It adopts an integrated approach to conservation of the different components of the agro-ecosystem in ways that maintain ecosystem service provision and reflect an ecosystem approach;
- It stresses the importance of conservation adopting a livelihoods approach based on a farmer and community perspective;
- It will seek to combine conservation of existing agrobiodiversity with introduction of new diversity as part of effective sustainable development;
- It plans to mobilize and bring together the extensive experience of a wide range of different Sri Lankan national and regional agencies and organizations together with relevant civil society organizations already active in this area;
- It will make use of capacity of the Platform for Agrobiodiversity Research to access a wide range of expertise and provide experience and knowledge in different areas of conservation and use of agrobiodiversity and of Bioversity International's comparative advantage in specific areas such as policy and work on social institutions.

The project will be undertaken at selected pilot sites within three contrasting landscapes which capture a significant proportion of the globally significant agricultural ecosystems and agrobiodiversity present in Sri Lanka:

- 1. Kandian Forest Garden System** in Mid country Sri Lanka – This is a traditional multi –story production system of mixed cropping comprising several perennial food crops, fruits, vegetables, roots, tubers, medicinal plants, sugar crops, spice crops and timber crops. The crops grown provide high levels of nutritional diversity while medicinal species, spices and tree species provide substantial income to households. This system is still in operation in many up and mid country wet zone areas in Sri Lanka. The proposed work areas are Kandy and Matale districts<sup>2</sup>.
- 2. 'Owita' landscape** – This is a rich mixed farming system based on rice. Land areas for growing various crops are maintained between the low lying paddy fields and upland home gardens. The system is characteristic of the low country wet zone of Sri Lanka and the proposed work areas are the Kalutara and Galle Districts
- 3. The village tank system** is found mainly in the low country dry zone of Sri Lanka and is a highly developed form of traditional agriculture supported by an ingenious system of man-made tanks and water-distributing canals. Rice is grown together with a number of arable crops, found mainly in low country dry zone of Sri Lanka. The proposed working areas are Kurunegala and Puttalama Districts

The following criteria were used to select these sites:

- Contrasting agro- ecosystems with communities using different livelihoods strategies
- The presence of different but unique agrobiodiversity and wild biodiversity in each site
- The economic and socio-cultural importance of the agro-ecosystems and of the communities and the role of the communities as repositories of traditional knowledge relevant to agrobiodiversity management

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<sup>2</sup> Jacob, V.J. and W.S. Alles. 1987 Kandyan Gardens of Sri Lanka. *Agroforestry Systems*. 5: 123-137



- The potential for improved production and better returns based on sustainable management
- Identified potential or actual vulnerability to global climate change
- Limited research (and therefore limited knowledge) on these systems to date
- Poor institutional and policy support to date
- Recognized potential to test the proposed integrated approach combining management of crop, livestock and other components of agrobiodiversity in a complex, diverse system.

The detailed information on the ways in which each of the selected sites meet the different criteria will be presented in the full project document.

The project will have the following **global environmental benefits**: (i) the conservation and sustainable use of unique biodiversity at genetic (traditional crop and livestock varieties adapted to specific ecosystems), species (important and threatened crop wild relatives and medicinal species) and ecosystem levels (the important forest garden, Owita landscape and village tank system agro-ecosystems identified for the project) which represents a global good of vital importance to the future of the planet and its inhabitants. Such unique germplasm will harbour important genetic traits that will help the world cope with climate change and contribute to future food security.; (ii) the strengthening and adoption of agrobiodiversity management systems designed to improve ecosystem service provision (e.g. pollinators and water management); (iii) the development of integrated practices for agrobiodiversity management applicable in other situations (including experience of sustainable harvesting and certification schemes for key threatened medicinal species); and, (iv) the development of agrobiodiversity rich climate management adaptation tools which are likely to have wide relevance to farming communities throughout the world.

Within each site (agro-ecosystem) existing information collected and analyzed during the PPG will be used to quantify (a) current extent and distribution of traditional varieties of crops and livestock and extent, distribution and management of other unique biodiversity (e.g. crop wild relatives, locally harvested useful wild species); (b) areas under sustainable land management practices using key selected ecosystem function indicators.

The specific indicators to measure global environmental benefits delivered by the proposed project will therefore more specifically include:

1. Crop and livestock species and genetic diversity conserved and sustainably used estimated as numbers and identities of crop and livestock species, varieties used and the areas under production<sup>3</sup> together with numbers and areas of species sustainably managed and/or harvested for crop wild relatives and other useful species.
2. Areas (no. ha. and no. farms) within each site practicing defined agrobiodiversity rich management practices considered to include identified biodiversity friendly production practices (conservation agriculture, reduced tillage, organic agriculture etc)
3. Numbers of initiatives within sites identified as supporting maintenance of agrobiodiversity (e.g. community biodiversity registers, community seed banks, community management practices that support ecosystem functionality (watershed management etc.)

The project will also contribute to the development of unique and innovative global tools for integration and enhanced mainstreaming and conservation agrobiodiversity as well as community based approaches to conservation. By generating local income and economic development in some of the most impoverished areas of Sri Lanka the project will contribute to reducing poverty and enhancing well-being and thus reduce future pressure on vulnerable ecosystems.

## **B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL/REGIONAL PRIORITIES/PLANS:**

Sri Lanka is a signatory to the Convention on Biological Diversity (CBD) and published a National Biodiversity Conservation Action Plan (BCAP) in 1999. An addendum to the BCAP was made in 2007 to provide more details on the status of cross-cutting areas for biodiversity planning and to integrate as far as possible and as appropriate the conservation

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<sup>3</sup> For quantification procedures for crops see Jarvis et al. 2008 A global perspective of the richness and evenness of traditional crop-variety diversity maintained by farming communities. Proceedings of the National Academy of Sciences 105, 5326-5331

and sustainable use of agrobiodiversity into relevant sectoral and cross-sectoral plans, programmes and policies at the national level. The following priorities are relevant to agrobiodiversity:

1. Formulate, adopt and implement appropriate legislative, regulatory and other related legal measures in order to conserve agrobiodiversity and facilitate access, sustainable use and equitable sharing of benefits from it.
2. Identify and rectify any obstacles that hinder or limit the conservation efforts of agrobiodiversity by providing incentives and other policy and legal measures to promote and conserve traditional varieties/breeds (of agrobiodiversity) and their wild relatives through facilitating markets and value added products.

The Government's ten-year development plan (*Mahinda Chintana, 2006-2016*) has not only recognized the uniqueness and importance of local biodiversity and its conservation but also encourage the utilization through a programme entitled '*let us cultivate and uplift the nation*' implemented by the Ministry of Agriculture and Agrarian Services.

In May 2008, Sri Lanka Officially launched the "*National Action Plan For Agrobiodiversity Conservation and Sustainable Utilization*" (NAP). The NAP implementation is coordinated by the Ministry of Environment and Natural Resources and priority actions identified include: (i) Promote research/assessments on traditional agrobiodiversity systems, sustainability, target species of genetic resources including wild relatives and establish a public information dissemination system on the significance of conserving agrobiodiversity, and enhance the scientific understanding of such conservation efforts; (ii) Promote assessment and documentation of knowledge gaps; (iii) Strengthening national literacy and research capacity on agrobiodiversity ; (iv) enhance benefit sharing; and (v) and promoting conservation and utilization through enhanced marketing.

The proposed project is fully consistent with the NAP and directly addresses its concern with promotion of agrobiodiversity, strengthening capacity to support maintenance of agrobiodiversity, enhanced benefit sharing and promotion of conservation and use through marketing and management. The project would enable Sri Lanka to accelerate the implementation of the national priorities and policies listed above. It reflects the importance given by the Sri Lanka government to maintenance of diversity in production systems, livelihood and income generation and related policy development, the three components of this project.

### **C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH [GEF STRATEGIES](#) AND STRATEGIC PROGRAMS**

The project contributes primarily to GEF Strategic Objective Two: To Mainstream Biodiversity in Production Landscapes/Seascapes and Sectors. It takes an integrated agro-ecosystem approach, recognizing that biodiversity conservation in agricultural environments needs to be embedded into sustainable management of complex, dynamic and productive landscapes. In Sri Lanka this means that mainstreaming needs to take account of the multi-faceted multi-component nature of the agricultural landscape, where small scale farmers' decisions on crops, livestock or management practices are inter-related and have consequences on the different parts of agrobiodiversity that make up the landscape.

The project contributes to SP 4 through its focus on policy aspects at local and national levels. Sri Lanka has a strong national agricultural sector but this has yet to fully address sustainability and agrobiodiversity maintenance issues. At the national level the project will contribute to ongoing policy related efforts to identify ways of implementing relevant provisions of ITPGRFA and other international instruments such as the Global Plan of Action on Animal Genetic Resources. Using the substantial expertise developed at Bioversity International the project will explore access and benefit sharing issues for communities as they relate to the approaches outlined in the implementation of the ITPGRFA and the Convention on Biological Diversity. Programmes to strengthen the capacity of the advisory services to adopt agrobiodiversity rich approaches will be implemented and research projects on key issues of integrated agrobiodiversity management identified for donor support. At local levels it will seek to strengthen appropriate governance structures embedded within social institutions in the target areas and improve local knowledge of agrobiodiversity.

The project will contribute to SP5 through the development of a set of specific targeted activities aimed at improving the sustainable marketing of the products of agrobiodiversity rich production systems – particularly medicinal species, spices, fruits and vegetables. The ways in which certification schemes might be developed will be explored and where appropriate sustainable management and harvesting strategies and practices developed and adopted. Community driven approaches will be central to this work. The project will also contribute to SP5 through the improved sustainable production of agrobiodiversity rich products (as assessed by numbers of varieties and numbers of different crop, livestock and other the diversity of other products (timber, non timber forest products etc.). The emphasis will be on ensuring the production

framework exists to (a) improve resilience (b) optimize ecosystem service provision and (c) can develop and adopt appropriate certification and marketing approaches for key high value products (e.g certain spices).

**D. JUSTIFY THE TYPE OF FINANCING SUPPORT PROVIDED WITH THE GEF RESOURCES:**

The project objective will be attained through the provision of technical assistance and scientific and technical analysis. No loan or revolving-fund mechanisms are considered appropriate, and therefore grant-type funding is considered most adequate to enable successful delivery of the project outcomes.

**E. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:**

The project will take forward some major outputs and results from the UNEP/GEF supported project “In-situ Conservation of Crop Wild Relatives through Enhanced Information Management and Field Application” undertaken in part in Sri Lanka. This project, due to be completed during 2009, has demonstrated the critical importance of agro-ecosystems in conserving crop wild relatives. The project has also demonstrated effective partnership working between relevant Government ministries and agencies, this project will build on these initiatives and achievements. The proposed project will also take forward relevant outputs and lessons learned from the UNDP/GEF project “Conservation and Sustainable Use of Medicinal Plants. The above project established medicinal plant villages, and the proposed project will explore ways of working with such villages to ensure sustainability of activities, and extending management activities to include more components of the ecosystem. Collaboration and synergies will be sought on the improvement of market opportunities with the IFAD-GEF “Participatory Coastal Zone Restoration and Sustainable Management in the Eastern Province of Post-Tsunami Sri Lanka”. Direct links will be developed with the UNEP/GEF project ‘Development and Application of Decision-support Tools to Conserve and Sustainably use Genetic Diversity in Indigenous Livestock and Wild Relatives’. The expertise mobilized in the Indigenous Livestock and Wild Relatives project will provide essential inputs to the work proposed by this project. The proposed project will also seek to build on the relevant activities from the recent (most of which have been completed) GEF small grants projects in Sri Lanka: 1. “Knowledge sharing among rural communities using community radio service and demonstration of traditional farming and soil conservation methods” ((SRL/95/G52/018); 2. “Biodiversity conservation through conservation of tuber varieties” (SRL/98/G52/011); 3. “Community based approach for conservation, promotion and marketing of traditional tuber varieties” (SRL/SGP/OP4Year1/RAF/08/06; 4. “Conservation of biodiversity on Ritigala Strict Nature Reserve to raise medicinal plants and produce ayurvedic medicines” (SRL/95/G52/017); 5. “Organic farming and home garden development of women farmers” (SRL/95/G52/046); 6. “Empowerment of community – the village, the plantations, the home garden – in working for biodiversity conservation” (SRL/95/G52/028); 7. “Establishing a herbal garden in school premises” (SRL/95/G52/036); “Biodiversity conservation through rehabilitation of tank and conservation of watersheds” (SRL/04/02). The proposed project will examine these projects and look to build on relevant community-based/participatory initiatives to biodiversity conservation, activities promoting awareness of agricultural biodiversity friendly practices and opportunities for marketing and improving livelihoods. Where appropriate the project will establish partnerships with the relevant implementing NGOs. Similarly it is intended that links are developed with other similar initiatives on specific parts of the agro-ecosystem such as ICRAF Sri Lanka program on agroforestry tree domestication and enhancement of agroforestry tree germplasm utilization. The project will also benefit from the work planned in the recently cleared by the CEO, GEF PIF “Mainstreaming biodiversity conservation and sustainable use for improved human nutrition and wellbeing”, especially in the areas of sharing resources personnel, and good practices which can strengthen the nutritional and some key market development aspects of this project.

More generally the project will build on lessons learnt from a number of past and current global agrobiodiversity management initiatives. These include UNEP GEF supported work on crop maintenance in Sub Saharan Africa, on pollinators and on below-ground agrobiodiversity in soils. It will also build on work undertaken in GEF UNDP projects, particularly the work on crops and wild relatives in Ethiopia and “Sustaining Agricultural Biodiversity in the Face of Climate Change”.

Project in Tajikistan.

In order to ensure that these potential linkages and possible coordination become reality the project will work closely with the Platform for Agrobiodiversity Research ([www. Agrobiodiversityplatform.org](http://www.Agrobiodiversityplatform.org)). 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.

**F. DISCUSS THE VALUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING**

The full realization of the expected global environmental benefits as described in section A above (species and genetic diversity maintained in production systems and land maintained under agrobiodiversity friendly management practices) requires GEF involvement and provides significant added value to Sri Lanka conservation efforts.

Sri Lanka has a strong commitment to conservation of biodiversity and a well-established agricultural research and advisory service. Key organizations within the environmental and agricultural communities have come together and collaborated on a number of specific initiatives such as the UNEP GEF supported project on crop wild relatives. However, within both agricultural and environmental sectors the approaches remain poorly linked and coordinated and the different organizations, responsible for different aspects of production (crops, livestock, medicinals, spices, agroforestry, pollinators etc), often work in isolation of each other. The project will provide the required stimulus and operational framework to bring the different actors together in ways that are relevant to the small-scale farmers and communities involved. GEF involvement will support the necessary integration, coordination and collaboration between stakeholders, adding value to the project in terms of linking the mainstreaming actions at community level to wider policy perspectives and actions.

Without implementation of this project it is unlikely that the required integrated and mainstreaming approach, combining the necessary components of agrobiodiversity and corresponding institutions, will take place. Further, it is likely that current research and development in the area of agrobiodiversity in Sri Lanka would continue to be under-funded and lack the necessary linkages and opportunities to inform wider national policy and strategies, such as climate change adaptation and development goals. Such a scenario could mean less support from national priorities and public policy which could impact on the livelihoods of those farmers and rural communities who depend on agrobiodiversity resources for their livelihood. Targeted landscapes would continue to face the threat of genetic erosion and the loss of valuable genetic resources.

Without the project there will continue to be a lack of integration, coordination and collaboration among the relevant stakeholders in Sri Lanka which would result in the continuation of many of the barriers and policies that are not conducive to the successful mainstreaming of agrobiodiversity. This is the important value-added nature of a GEF intervention which will contribute substantially to a reduction of important barriers and constraints and will have important positive knock-on effects in securing the successful conservation of previously highlighted globally significant biodiversity, securing associated global environmental benefits and contributing to well-being and livelihoods in Sri Lanka.

Climate change adaptation strategies in Sri Lanka are under development but they take insufficient account of the use that can be made of agrobiodiversity and the need to take specific measures to maximize adaptability, resilience and, where necessary, transformation in production systems. The project will add these dimensions to climate change management in Sri Lanka. There will be further environmental benefits in terms of integrated management of agrobiodiversity and the development of specific tools and management practices for providing adaptability and resilience under climate change. The development of possible indicators for these will be explored during the project and will be available for use by GEF in other areas.

In addition to the direct benefits to Sri Lankan agrobiodiversity maintenance and mainstreaming and conservation of unique biodiversity, the project will provide global benefits through the links with the Platform for Agrobiodiversity Research which will make tools, experiences and methodologies available as part of its ongoing commitment to supporting maintenance and use of agrobiodiversity.

**G. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED, AND IF POSSIBLE INCLUDING RISK MITIGATION MEASURES THAT WILL BE TAKEN**

Risk	Level	Mitigation Strategy
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The political and security environment deteriorates	M	Project areas will be selected in country regions which are less likely to be affected by security problems; Policies associated with agriculture, environment and rural poverty are expected to continue to have high priority because of national needs
National government ministries and other organizations do not cooperate or demonstrate effective coordination on activities and policies.	L	Stakeholders have expressed willingness for this project and the project will build on already established partnerships such as those developed during earlier GEF interventions which have developed effective coordination in similar contexts.
Farmers cannot access existing micro-credit schemes	L	Pilot sites will be chosen in areas where micro-credit schemes exist.
Agricultural production strategies favour system simplification and not agrobiodiversity (owing e.g. to declining food security)	M	This continuing problem of rural development strategies over the last 50 years is likely to impact less on the selected project areas where benefits and importance of agrobiodiversity is highest. Third project component will directly address this risk
Communities and farmers do not wish to participate	L	Project implementation experiences from over 20 countries have shown this risk is overcome by adoption of appropriate participatory approaches during project planning phase
Climate change or other environmental events remove diversity	L	The project will adopt an appropriate scale for interventions (landscape scale) and integrate back up national ex situ conservation and delivery procedures.

#### H. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT:

The proposed project investment is some \$4 million of which \$1.45 million will be provided by the GEF. The value of agrobiodiversity is poorly quantified but can be illustrated. A single wild tomato gene has been estimated to be worth over \$5m-\$8m per year to the tomato industry and the contribution of rice traditional varieties from S Asia has been estimated to be about \$150 - \$200 million per year<sup>4</sup>. In Sri Lanka the project will derive its cost effectiveness not only from future benefits of particular genes or varieties conserved but also from the value of the medicinal and spice species maintained. The mainstreaming of agrobiodiversity into production practices will result in benefits in terms of the health, well being and incomes of poor rural farmers and reduce the costs of adaptation to climate change. There will also be savings from reduced needs to use pesticides, herbicides and other environmentally damaging agricultural inputs. There will also be considerable cost-effectiveness achieved through the innovative coordinated and integrated approach which the project will employ and which combines components of crop, livestock, soil, vertebrate and wild plant and animal agrobiodiversity and collaboration of a range of national agencies.

#### I. JUSTIFY THE COMPARATIVE ADVANTAGE OF GEF AGENCY:

UNEP's comparative advantage derives from its mandate to coordinate UN activities with regard to the environment, including its convening power, its ability to engage with different stakeholders at national and international level to develop innovative solutions and its capacity to transform these into policy- and implementation-relevant tools. The project complements UNEP's aim to promote specific technologies and demonstrate methodologies and policy tools that could be replicated on a larger scale by other partners. It will also complement the lessons learned and good practices that have emerged from the many UNEP-GEF implemented global agrobiodiversity projects on crops and livestock, wild relatives, pollinators, below ground biodiversity, pest and diseases, etc.

As a GEF Agency for this project UNEP will provide a platform for a collaborative partnership between several national and international organizations, which will bring the best available expertise in science and knowledge from the scientific and development community in both social and natural sciences. The Platform for Agrobiodiversity Research, Bioversity International, the leading executing agency for this project, will provide scientific support and technical expertise to UNEP in line with UNEP's mandate in GEF to catalyze the development of scientific and technical analysis and advancing environmental management in GEF-financed activities. The Platform for Agrobiodiversity Research will seek to use its international partnerships to mobilize support for the project and to involve international partners with expertise in

<sup>4</sup> FAO, 1998. The State of the World's Plant Genetic Resources.

complementary areas such as: using agrobiodiversity to cope with climate change; participatory crop improvement; sustainable livelihood approaches; marketing and value-adding to agrobiodiversity; community and farmer-led approaches; linking smallholders to formal genebanks and agrobiodiversity networks; and support to policy and legal issues and international treaties and agreements.

The project has been developed with-in the framework of UNEP Ecosystem Services Program that responds to the recommendations from the two independent evaluations of the Millennium Ecosystem Assessment (MA) as well as to the request from the CBD for substantially increasing the impact of the MA. The UNEP program on Ecosystem Services contains three components of direct relevance to this project. These are: (i) Advancing the knowledge base and tools for mainstreaming ecosystem services into decision making; (ii) Integrate the MA Ecosystem Service Approach into decision making at all levels; (iii) Outreach and Dissemination.

Most importantly the proposed project is in line with the increasing commitment of UNEP to improving the sustainability of agro-ecosystems and supports the ongoing work of UNEP's Division of Environmental Policy Implementation on the medium- to long-term response to the food crisis and to the future of agriculture and environment, including the issue of food prices and volatility, sustainability of responses, the role of agrobiodiversity for food security and the linkages to the climate change challenge. It directly supports Option 4 and 6 of the "Seven Options for Improving Food security" of the 2009 UNEP Rapid Response Assessment of the environment's role in averting future food crises, to "Support farmers in developing diversified and resilient ecoagriculture systems that provide critical ecosystem services" and "minimize dependency on external inputs like artificial fertilizers, pesticides and blue irrigation, and the development, implementation and support of green technology also for small-scale famers" and ([http://www.grida.no/res/site/file/publications/FoodCrisis\\_lores.pdf](http://www.grida.no/res/site/file/publications/FoodCrisis_lores.pdf): p 8).


### **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):** (Please attach the [country endorsement letter\(s\)](#) or [regional endorsement letter\(s\)](#) with this template).

NAME	POSITION	MINISTRY	DATE (Month, day, year)
Jayatilake, M.A.R.D	Secretary	Ministry of Environment and Natural Resources	SEPTEMBER 8,2009

**B. GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation.

Agency Coordinator, Agency name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Maryam Niamir-Fuller Director Division of Global Environment Facility (GEF) Coordination UNEP		10/13/2009	Marieta Sakalian UNEP/DGEF Programme Management/Liaison Officer (CGIAR/FAO), Biodiversity FAO Headquarters TCAP Unit, D708 Viale Delle Terme di Caracalla 00153 Rome Italy	+39 06 570 55969	Marieta.Sakalian@unep.org