



PROJECT IDENTIFICATION FORM (PIF)
PROJECT TYPE: FULL-SIZED PROJECT
TYPE OF TRUST FUND: GEF TRUST FUND

PART I: PROJECT INFORMATION

Project Title:	Enhancing Biodiversity Conservation and Sustenance of Ecosystem services in Environmentally Sensitive Areas		
Country(ies):	Sri Lanka	GEF Project ID: ¹	5337
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5165
Other Executing Partner(s):	Ministry of Environment	Submission Date:	19 March 2013
		Re-submission Date:	28 March 2013 / 8 Apr 2013
GEF Focal Area (s):	Biodiversity	Project Duration (Months)	60 months
Name of parent program (if applicable):	NA	Agency Fee (\$):	249,535
	<ul style="list-style-type: none"> • For SFM/REDD+ <input type="checkbox"/> • For SGP <input type="checkbox"/> 		

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK²:

Focal Area Objectives	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
BD 2 Objective 2: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors	GEFTF	2,626,690	11,500,000
Total Project Cost		2,626,690	11,500,000

B. INDICATIVE PROJECT FRAMEWORK

Project Objective: To operationalize Environment Sensitive Areas (ESA)—as a mechanism for mainstreaming biodiversity management into development in areas of high conservation significance						
Component	Grant Type ³	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant (\$)	Co-financing (\$)
Enabling Framework to Designate and Manage Environmentally Sensitive Areas (ESA)	TA	<p>An effective governance framework for planning, managing and compliance monitoring in the ESAs covering at least 5% of Sri Lanka's land area</p> <p>At least 20% increase in Capacity Scorecard ratings in target institutions from baseline—reflecting an increase in capacity to plan and execute management measures to address threats to biodiversity arising from development in ESAs</p> <p>Government gazettal of at least one new model ESA in the Galoya and Kubukkan basin covering at least 315,000 hectares with core area excluding existing PAs of approx. 50,000 ha declared as forest conservation area class I⁴</p>	<ul style="list-style-type: none"> • <u>Updated Decree on Conservation and Sustainable Development of ESA</u> that: a) clearly specifies ESA the lead agency, its roles and responsibilities vis-à-vis those of other sectors; b) endorses the land use planning framework developed (below); c) national ESA strategy and action plan that makes explicit note for biodiversity conservation • <u>Land-use Planning framework for ESAs in place</u> that allocates lands to optimal land uses based on biodiversity considerations by a) no-go areas for development in highly sensitive areas identified; b) prescribe appropriate measures and practices that reduce threats to biodiversity to areas where development is permitted; c) define clear roles, responsibilities and rights of national, provincial and local authorities, communities and the private sector in ESA management • <u>Improved decision-support system for managing multiple land uses in ESAs</u> based on: a) biodiversity indicators and status assessments that monitor achievement; b) environmental impact assessment and management regulations setting minimum higher standards for environmental management applying to development in sensitive areas—geared to avoiding and reducing 	GEFTF	465,500	2,734,125

¹ Project ID number will be assigned by GEFSEC.
² Refer to the reference attached on the [Focal Area Results Framework](#) when completing Table A.
³ TA includes capacity building, and research and development.
⁴ These forests are strictly conserved or preserved to protect biodiversity, soil and water, historical, cultural, religious, and aesthetic values. Only some specific activities such as research are allowed in these areas.

			<p>threats</p> <ul style="list-style-type: none"> • <u>Ministry of Environment (MOE) led effective cross-sectoral coordination mechanism in place</u> involving Central Environment Authority (CEA), Biodiversity Secretariat (BDS), Forest Department (FD), Coast Conservation Department (CCD), Dept. of Wild Life Conservation (DWLC), Local Government Authorities (LGA) and Dependent Communities (DC) leading to better planning, coordination, monitoring and enforcement capabilities 			
Applying biodiversity-friendly ESA management for long term integrity and resilience of ESAs	TA/INV	<p>ESA Land-use Planning and compliance framework applied in the Galoya and Kubukkan basin ESA improves biodiversity conservation status as indicated by:</p> <p>a) No net loss of important habitats covering at least 315,0000 ha</p> <p>b) Increases in ecosystem connectivity from ridge to shore, as indicated by increases in connectivity, integrity and resilience indices and reduction in distance between major habitat blocks (indices to be developed and baseline values to be determined during the PPG phase)</p> <p>c) Stability or increase in populations of key species (e.g. Sloth bear, leopard and Sri Lankan Toque monkey)</p> <p>d) Direct reduction in threats from infrastructure development, and production activities (agriculture, fisheries, extractive industries) such as through proper location of infrastructure, wider adoption of BD-friendly production systems</p> <p>Enhanced conservation status of PAs within the ESA Landscape-- the Galoya Nationa Park; the Yala east (Kumana) NP; the Lahugala NP; Senanayaka samudra Sanctuary, covering 65,000 hectares—through the protection of animal movement corridors, and reduction of development pressures in the surrounding landscape (infrastructure growth, agricultural encroachment etc).</p>	<ul style="list-style-type: none"> • <u>Management and zoning plans implemented to reduce threats to biodiversity in one ESA landscape result in:</u> a) notification / gazettal of highly sensitive areas of significant biodiversity significance; b) application of Strategic Environmental Assessment of regional and local development plans on likely impacts of infrastructural or productive development; c) integration of biodiversity considerations into the operations of key economic sectors (agriculture, forestry, tourism, infrastructure); d) emplaced enforcement systems – strengthened compliance monitoring; penalties, surveillance and prosecution to deter malfeasance. • <u>Sustainability of the project approach and interventions is ensured by:</u> a) developing a long term financial sustainability strategy (mix of approaches such as re-alignment and increase in existing government budgetary resources, raising additional funds from innovative approaches such as public-private partnerships, attracting CSR spending of private companies operating in or near the ESA regions); b) supporting strong business development and capacity development for local community based enterprises so that livelihood improvement efforts are sustained post project. • <u>Extension support system strengthened, to guide land users to adopt biodiversity-friendly practices, enabling farmers to implement resource management practices</u> on their land such as: (i) incentives/ disincentives in place to practice sustainable agriculture and fisheries management; (ii) training modules for extension agents, resulting in more effective and participatory delivery of extension services and the incorporation into extension messages of biodiversity issues ; (iii) Integrated training and extension modules for farmers, producers and local decision-makers developed and delivered in local languages to promote community level planning, implementation and monitoring of ecosystem integrity; (iv) supporting community initiatives such as Environmentally Sustainable Tourism or Eco-tourism. 	GEFTF	2,038,500	8,202,375
		Subtotal			2,504,000	10,936,500

Project Management Cost (PMC) ⁵		GEFTF	122,690	563,500
Total Project Cost			2,626,690	11,500,000

C. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME IF AVAILABLE, (\$)

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount (\$)
National Government	Ministry of Environment	Cash	4,750,000
National Government	Ministry of Environment	In-kind	2,250,000
Local Government	To be determined	In-kind	1,000,000
GEF agency	UNDP Sri Lanka	Cash	3,500,000
Total Cofinancing			11,500,000

D. INDICATIVE TRUST FUND RESOURCES (\$) REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY¹

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (\$) (a)	Agency Fee (\$) (b) ²	Total (\$) c=a+b
UNDP	GEFTF	Biodiversity	Sri Lanka	2,626,690	249,535	2,876,225
Total Grant Resources				2,626,690	249,535	2,876,225

¹ In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

² Indicate fees related to this project.

E. PROJECT PREPARATION GRANT (PPG)⁶

Please check on the appropriate box for PPG as needed for the project according to the GEF Project Grant:

	<u>Amount</u> Requested (\$)	<u>Agency Fee</u> for PPG (\$) ⁷
• (upto)\$100k for projects up to & including \$3 million	<u>100,000</u>	<u>9,500</u>

PPG AMOUNT REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES) FOR MFA AND/OR MTF PROJECT ONLY

Trust Fund	GEF Agency	Focal Area	Country Name/ Global	(in \$)		
				PPG (a)	Agency Fee (b)	Total c = a + b
GEFTF	UNDP	Biodiversity	Sri Lanka	100,000	9,500	109,500
Total PPG Amount				100,000	9,500	109,500

MFA: Multi-focal area projects; MTF: Multi-Trust Fund projects.

PART II: PROJECT JUSTIFICATION⁸

PROJECT OVERVIEW

A.1. Project Description.

The project will render operational a new land use governance framework known as Environmentally Sensitive Areas (ESAs) as a vehicle for safeguarding globally significant biodiversity on production lands of high interest for conservation. This is important as PAs alone will not be able to secure the effective conservation of globally significant biodiversity, due in part to the high beta and gamma diversity of the country, and the fact that the PA system is not wholly representative of the country's bio-geography. Moreover, the loss of habitat on production lands adjacent to PAs is leading to their

⁵ To be calculated as percent of subtotal.

⁶ On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁷ PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

⁸ Part II should not be longer than 5 pages.

progressive insularisation. Using the land use planning and management framework as the entry point, the project aims to optimize land management and ensure the compatibility of multiple land uses across landscapes designated as ESAs with biodiversity needs. Government legislation provides for the creation of ESAs but there is an unmet need (addressed through this project) to operationalise them. The project will put in place the necessary land use planning and governance frameworks, and establish compliance monitoring and enforcement systems to ensure that mechanisms for land use permitting and allocation in ESAs are configured to balance conservation and development objectives, to protect major habitat blocks and ensure structural and functional connectivity across the landscape. In this regard, it will ensure that the indirect impacts of development (e.g. impacts of roads and other infrastructure) are adequately understood and factored into decision making. ESAs will be comprise a mosaic of land uses, the most sensitive areas within which will be established as ‘no go areas’ for development. While setting up the systemic capacities to manage ESAs (plan, regulate, and enforce management prescriptions), the project will also operationalise Sri Lanka’s first ESA in the Galoya and Kubukkan basin. Thus it will deliver immediate global benefits, while improving long term conservation prospects across the country.

Context and Global Significance: Sri Lanka is an island nation with a land area of 65,610 km² and additional territorial waters straddling an area of 517,000 km². It’s geographic location, varied climatic conditions and topography have given rise to its unique biological diversity. Along with the Western Ghats of India, the country has been identified by Conservation International (CI) as one of the 34 global biodiversity “hotspots” while Birdlife International (BI) has identified the country as one of the world’s 356 endemic bird areas. Sri Lanka’s lowland rainforests, montane rainforests and south-western rivers and streams are listed in WWF’s Global 200 eco-regions. Among Sri Lanka’s rich and globally significant biodiversity, there are 677 species of native vertebrates (excluding marine forms), and a further 262 species of migrant birds. Endemism among vertebrates is about 43%, with the highest endemism quotient being recorded among the herpetofauna and freshwater fishes. Similarly the island is home to over 3000 angiosperms. In terms of ecosystems, the terrestrial ecosystems, in particular the wet zone forests in the southwest, are especially important as they sustain 75% of the endemic species of flora and fauna. There are 15 floristic regions. Approximately 25% of the 3,771 species of flowering plants, 18% of 91 species of mammals, 7% of the 227 bird species, 83% of the 246 species of land snails, 85% of the 106 species of amphibians, 60% of the 171 species of reptiles and 100% of the 59 species of fresh water crabs found in the country are endemic. Species diversity is also high in coastal and marine systems. The marine fauna recorded in Sri Lanka include 213 species of echinoderms, 228 species of marine mollusks, 61 species of sharks, 31 species of rays, 18 species of marine reptiles (including 5 turtles, 12 sea snakes and 1 salt water crocodile), 28 species of marine mammals (including 27 whales/dolphins and 1 dugong), more than 183 species of corals and 49 species of sea birds. Around 80% of all its freshwater crabs are threatened while 1 in every 2 species of mammals and 1 in every 3 species of reptiles and freshwater fish and 1 in every 5 species of birds in the island are currently facing the risk of extinction.

The project’s pilot site is highly important for globally significant biodiversity. It encompasses at least two national parks namely the Galoya, Lahugala and parts of two protected areas (the Yala NP and the Kumana bird sanctuary). The landscape runs from the ridge that includes the Maragala mountain to the beautiful beaches like Arugam bay. A wide range of ecosystem types occur in the landscape including forests, savannas, grasslands and waterbodies that in turn support a very diverse flora and fauna. The landscape harbor important tree species that include *Hemicyclia sepieria* and palm *Manilkara hexandra*. It is an important bird area (IBA) especially the area encompassing and surrounding the Kumana Villu bird sanctuary that serve as important breeding area for water birds with the Black-necked Stork (*Ephippiorhynchus asiaticus*) and the rare red faced malkoha (*Phoenicophaeus pyrrhocephalus*). It accounts for more than the half of bird species recorded in the country. The landscape is also home to the Asian elephant (*Elephas maximus*) and several other mammals (e.g. Leopards, Sloth Bear, Water Buffalo and the Stripe-necked Mongoose) – a total of 32 terrestrial mammal species have been recorded.

Threats to Biodiversity: There are several threats to Sri Lanka’s global biodiversity, both within and outside formal protected areas as elaborated below:

- **Habitat loss and degradation:** This constitutes the most serious threat to terrestrial biodiversity in the country owing due to loss of forests through: clearing for development or conversion to monoculture plantations in the past, *illegal* slash and burn cultivation in the dry zone and encroachment for cultivation of cash crops in the wet zone; ad hoc reclamation of wetlands; indiscriminate allocation of coastal land for construction of tourist hotels and unplanned establishment of aquaculture farms in coastal areas in the past; and continuing landfills in wetland habitats, particularly in urban areas for housing and commercial and industrial development. The traditional practice of clearing wetland vegetation in forests for “deniya” cultivation with paddy is also a primary cause for habitat loss. The disruption of continuous stretches of forest, particularly in the dry zone, due to establishment of human settlements, irrigated agriculture and *chena*

cultivation has affected the movement patterns of wildlife, particularly elephants, leading to human-wildlife conflicts. Damage to crops and habitations, injury to elephants, and frequent deaths of both humans and elephants are some major consequences. In addition, livestock grazing within and bordering protected areas by high densities of livestock is a serious problem causing habitat degradation. The growth in livestock densities often accompanying human population growth inevitably results in serious conflicts between villagers and forest department officials. Thus a major threat to biodiversity in Sri Lanka is the ever-increasing demand for land for human habitation and related developmental activities. In this vein, poor land use planning and weak enforcement of legislation are major issues leading to loss, fragmentation, modification and degradation of natural habitats, which in turn is the prime cause for many of Sri Lanka's biodiversity species being pushed towards the brink of extinction. This is supported by the fact that the red listing exercise in 2007 shows that much of the threatened species are within the populous districts of the lowland Wet Zone and the central highlands, where there is a high population density, unplanned land use causing loss, modification and degradation of habitats. The degradation of freshwater wetlands has also been severe, due to pollution and siltation from unsustainable land use (including deforestation), agricultural runoff, salinity intrusion, over extraction of water for irrigation, and illegal sand mining. Agro-chemicals (pesticides, chemical fertilizers) are heavily used in leafy vegetable cultivation lands. Clear signs of eutrophication are evident in aquatic habitats as a result of nutrient accumulation. These chemical residues pose a serious threat to the aquatic organisms. This has also resulted in the proliferation of water hyacinth and other invasive aquatic weeds, eroding the species diversity of wetlands further. Likewise, the severe fragmentation of wet zone forests due to plantation agriculture in the past has affected primate dispersal, leading to the present co-occurrence of monkeys in home gardens and crop plantations.

- *Over exploitation of biological resources:* Unsustainable harvesting practices have resulted in the reduction or loss of populations of many plant and animal species. Particularly affected are coastal food fish and lobsters, marine and freshwater ornamental fish, medicinal plants. Destructive fishing methods and unregulated fishing effort has had negative impacts on coastal and marine biodiversity. These impacts have been exacerbated by the increase in human population density in Sri Lanka's Coastal Zone during the past few decades, due to tremendous human-induced disruption of coastal processes, and a corresponding decline of coastal habitats. With regards forests resources, the nature and extent of use varies according to location and socio-economic level of the local communities. Fuel wood collection has been particularly damaging to forests due to debarking of trees to increase dead wood for collection, and this is continuing in some regions even now. Overall, extraction of wood from both live and dead plants represents a serious threat negatively affecting canopy gaps, regeneration (lower fruit and seed production), stand density, basal area, and population structure and frequently resulting in the local extinction of overharvested preferred species. In addition local communities living within forest areas or on the forest fringes are frequently dependent on the extraction of NTFPs to meet a diversity of subsistence and commercial needs. For example, a large number of NTFP species are collected for consumption and sale. Sustainability of NTFP extraction in the wake of expanding human populations and changing consumption patterns are critical issues that need urgent attention. Similarly the extraction of fuel wood and fodder constitutes a significant and pervasive consumptive use.

To address these threats and to conserve its most significant global biodiversity, Sri Lanka has instituted a national system of **Protected Areas**. The legally designated Protected Areas (PAs) in Sri Lanka (namely, Strict Nature Reserves, National Parks, Nature Reserves, Jungle Corridors, Refuge, Marine Reserves, Buffer Zones and Sanctuaries) account for some 28% of the total land area. While PAs are largely successful-- much of the country's wildlife populations depend on areas outside the PA system for survival. The PA system is also not wholly representative of the country's biogeographic spread. Notwithstanding the moves underway to expand the PA estate, many of the globally important ecosystems and habitats of globally significant species will remain outside protected areas and will face accelerating pressures, unless strong measures are undertaken to mainstream biodiversity into production activities—to put development on a more conservation-friendly trajectory.

Institutions and policies: The Biodiversity Secretariat (BDS) in the Ministry of Environment is the national focal point for the CBD while the Department of Wildlife Conservation (DWLC) and Department of Forests (DF) are the main government institutions responsible for management of the PAs and forest areas outside PAs respectively. Other sectoral agencies of relevance include the Central Environmental Authority (CEA) and the Marine Environment Protection Authority (MEPA) that function under the MoE. The CEA is responsible for implementing laws and policies pertaining to general environmental conservation, while the FD, and DWLC, Coast Conservation Department (CCD) and Local Authorities deal with formulation and enforcement of laws in their respective spheres. In addition a large number of institutions are stakeholders in the conservation arena—with mandates for managing production sectors. Among others these include the Department of Fisheries and Aquatic Resources (DFAR), the Department of Agriculture (DOA), the

Department of Animal Production and Health (DAPH), the Urban Development Authority (UDA) and the Sri Lanka Land Reclamation & Development Corporation (SLLRDC). The National Planning Department deals with policy planning and implementation which also plays a strong role in the development of the national medium-term macroeconomic framework and sectoral programmes that have an impact on biodiversity conservation. In terms of government policies and strategies that either have a direct remit for biodiversity conservation or are significantly related, there are several. At least eighteen policies of the government exist ranging from the umbrella National Environmental Policy (2003) to subsidiary policies such as the National Policy on Wildlife Conservation (2000), the Flora and Fauna Act and Marine pollution act and finally the sectoral acts such as the Forestry Act and the National Forest Policy (1995), the Fisheries and Aquatic Resources Act and the Soil Conservation Act that have all bearing on biodiversity conservation.

Land use planning, policies and institutions: The Land Use Policy of Sri Lanka provides the overall policy direction and with the goal to promote “rational utilization of lands as a resource, in the national interest, in order to ensure food security, a high quality of life, equity and ecological sustainability”. The Land Use Policy Division (LUPPD) under the Ministry of Agriculture is the primary institution responsible for promulgating land use policies and preparing land use plans at the national and sub-national levels. At the divisional levels, there are land use planning committees chaired by the divisional secretaries and including line agencies’ staff at the divisional level and also a District land use planning office that provides technical and secretarial support to the committee. Table 1 below presents a summary of institutions involved.

Table 1: List of institutions involved in land use planning in Sri Lanka

Institution	Responsibility for land use planning in the country
Survey Department	Responsible for land surveying and mapping of the country.
Land Commissioner’s Department	Responsible for the protection, development, management and distribution of state-owned land, including the distribution of lands under various schemes, issue of permits, grants and leases.
Natural Resources Management Centre (NRMC)	The centre, under the Department of Agriculture, is responsible for optimizing land and water resources use including land conservation and water management, land suitability evaluation, watershed management, farm development and agriculture land use planning.
Land Use Policy Division (LUPPD)	Under the Ministry of Agriculture. Responsible for introducing systematic land use planning throughout the country to optimize utilization of land and other natural resources to the benefit of society. Prepares land use plans at the national and sub-national levels and preparation of national land use policy, establishment of land information system and land data.
Urban Development Authority (UDA)	Responsible for promoting integrated planning and implementation of economic and physical development of areas declared as Urban Development Areas.
Forestry Departments	Responsible for the planning, management and protection of lands declared as forest reserve areas
Registrar General’s Department	Responsible for the supervision of notaries and verification of stamp duty on deeds, the registration and custody of notarial deeds and other documents affecting land property.
Law Commission	Responsible for review of both substantive and procedural law, for systematic law development and reform including elimination of anomalies, repeal of obsolete and unnecessary enactments, general simplification and modernization of law. It is empowered to receive and consider proposals for reform of laws in the country.
Civil society	Are increasingly involved in land reform and land use planning activities in the country, ostensibly representing the interests of their constituencies. They can consist of NGOs, special interest and advocacy groups and community based organizations.

Several existing national policies and laws provide for ESAs. The “National Physical Planning Policy and Plan (2010-2030)” approved by the National Physical Planning Council on 27th July 2011, provides for the establishment of the ESAs and lists “conserving environmentally sensitive areas and protecting economic values” as a dedicated programme out of 21 national programmes (includes agricultural development, cities and settlement, transport development etc.) Likewise the “National Land Use Policy of Sri Lanka” proposed “Land and Nature” as one of the three themes (the other two being land and people; and agriculture and food security) to guide land use in the country. Under this theme, a key recommendation is the “need to prevent encroachment and degradation of highly environmentally sensitive areas, [and the important of] protection, conservation and improvement of the quality of natural resources” in such areas to ensure the long term well-being of the land without damaging it. Finally, ESAs are recognized as one of the key means to reduce adverse impacts of development on sensitive areas under the “Fragile Areas Conservation Strategy (2005)”.

Baseline project: The project baseline is presented against the two components as below:

Component 1: The Forest Department and the Department of Wildlife Conservation project investments upwards US\$ 2.8 million in investments into surveys and studies: to assess, understand and inventorize ecosystems such as surveys and

boundary marking of forest areas. These cover 270,000 ha or over 4% of the land area is classified as important forest areas-- and protected areas (28%) and provide a foundation for the project in terms of meeting the critical shortage of biodiversity and ecosystem data and also serving as baseline information on ecosystems, type and extent of forest areas. However, these investments are not currently geared to generate information on biodiversity richness, ecosystem intactness, connectivity and related information such as level of threats on a landscape or region basis that would be needed for identifying habitat blocks and high priority areas for conservation as well also identifying areas where certain uses could be permitted while reducing the impacts. A further US\$ 0.24 million will be invested through the “Pricing the Biodiversity of the Island”. The objective is to identify ecosystem goods and services values for each of the key ecosystems in the biodiversity priority zones for the whole country and will provide information important to increase understanding of the importance of biodiversity and as such would be useful in building the enabling environment for mainstreaming. This project will strengthen capacity to integrate biodiversity information into land use planning and permitting process. Similarly an estimated US\$ 1 million which is part of a World Bank “North East Local Services Improvement Project” (NELSIP – total budget \$38 million) will build capacities of authorities in the North East to undertake sound environmental assessments and ensure that large scale infrastructure development does not negatively impact the natural environment. Although this will ensure the EIA are applied for all major developments in the region, currently the EIA process places inadequate emphasis on development projects’ effects on biodiversity. The project will ensure that biodiversity objectives are mainstreamed into the EIA procedures.

Component 2: Roughly US\$ 22 million will be invested in the on-site conservation and management of ecosystems outside protected areas: through a number of government plans and programmes managed by the Department of Forests and Biodiversity Secretariat under the Ministry of Environment. This will provide some targeted tree planting and help reforesting degraded/deforested in ESA areas and watershed management programme that will address multiple use management of forest watersheds and would be a vehicle through which project lessons could be channeled. Similarly, government investment into integrated coastal zone management comprises another set of baseline investments. These include establishment of coastal shelterbelts, prevention of coastal erosion measures, and management of mangrove areas etc. I accounting US\$10 million for project duration but this is currently only limited to the coastal areas and would as such benefit from a ridge to reef approach. The Australian Government funded (US\$ 5million) Sri Lanka Community Forestry Programme implemented by the UNDP seeks to improve forest management by supporting the formation of community forestry user groups; enhancing sustainable forest management practices; and developing sustainable livelihoods and reduce deforestation. This will be of particular relevance to the planning, implementation and monitoring of community level initiatives for natural resource management and ecosystem monitoring that will be promoted under the project. Around \$24 million the EU funded “Support to reconstruction and development in selected districts in North and East Sri Lanka” project will be channeled through UNDP and FAO will target vulnerable families in agriculture, fisheries and livestock to provide income generation and sustainable livelihoods. UNDP will also support the preparation of the District Development Plans and provide technical assistance in the implementation of these plans. A further US\$ 5 million through a second World Bank project (Community Livelihoods in Conflict-Affected Areas) will support the promotion of sustainable livelihoods and reducing pressures on the environment. In the targeted pilot area, the project will support coordination, promote integrated planning and decision making with due consideration for biodiversity and ecosystem values into these baseline investments.

Long-term solution and barriers to achieving it: While there is an impressively large baseline addressing natural resource management outside PAs, these are neither sufficiently coordinated nor geared to ensure the long-term security of globally important biodiversity. The long term solution is to operationalise ESAs—as a mechanism for managing development in areas of high conservation significance, and providing a planning mechanism, and compliance system to apply higher standards for managing development in these areas—codified in environmental impact assessment and management requirements, aimed at avoiding development in the most sensitive areas and reducing the footprint.

Five ESAs have been identified as meriting establishment (see appendix 1)—based on their biodiversity significance. Two critical barriers however hinder the establishment and operationalisation of these ESAs—described in turn below.

Barriers 1: Policy and capacity support for cross-sectoral work on mainstreaming biodiversity conservation remains weak: While Sri Lankan law establishes ESAs through several national policies [e.g. National Physical Planning Policy and Plan (2010-2013), National Land Use Policy, and Fragile Areas Conservation Strategy (2005)], the country lacks a framework that a) defines the roles and responsibilities of key government institutions and community organizations in land use planning and management in ESAs; and b) lays out prescriptions for different categories of areas within the ESA landscape – such as no-go areas for development in highly sensitive areas; and biodiversity conservation

friendly development in the adjacent areas to protect corridors and sensitive habitats where development cannot be avoided. Additionally, the various roles and responsibilities between different government agencies for the management of ESAs (such as planning, monitoring and enforcement) remains to be clarified. Currently the various responsible government departments have overlapping mandates and often mutually exclusive objectives that increase conflict between development goals versus biodiversity concerns. For instance, the tourism sector institutions, mandated with maximizing visitor growth, seldom take into account the impacts of unregulated tourism on biodiversity and likewise with production sectors such as Agriculture etc. This speaks to the need for an effective inter-sectoral coordination mechanism and means to integrate biodiversity conservation principles into development plans and production sector practices to reduce pressures on biodiversity. Planning, monitoring and enforcement efforts are in any case undermined owing to the absence of an effective decision-making support system fed by biodiversity status assessments and environmental impact assessments (to assess and direct development away from and also to identify effective protection measures for ESAs).

Barrier 2: Limited know-how for the biodiversity conservation friendly ESA management that secures the long term integrity and resilience of ESAs: The most important barrier to the operationalisation of ESAs at the site level is lack of know-how and limited examples within the country of applying land use planning and regulatory frameworks to manage development across different sectors to secure positive biodiversity conservation outcomes. There are several landscape level initiatives such as watershed management, integrated water management and community based natural resource management, these practices are however not specifically geared to biodiversity management while lessons on what works and what does not have not been systematically captured and disseminated, as a result of which, field successes have not been scaled up nationally. However, such know-how exists within the region – in Bangladesh, land use planning tools have been used to identify, assess the biodiversity and other values of environmentally sensitive areas, and manage and where feasible locate developments away from such areas. Land use planning in Sri Lanka tends to be a rigid mapping exercise; legal controls on land management are regulated through various sets of laws. Neither the planning framework nor the enforcement one geared to balancing development with conservation. Likewise, there is sub optimal participation of key resource users and local stakeholders in the land use planning exercise. Clearly ESAs are going to require strong local planning, management and enforcement capacities to work. There is a need to develop such capacities at the province and district levels. Currently EIAs are prescribed only for developments along the coast and to territorial forests (as stipulated under the 1993 amendment to the Fauna and Flora (Protection) Ordinance they apply to developments within 1.6 km of the boundary of National reserves). Thus EIAs are not at present required for ESAs. Making EIAs mandatory for ESAs and using EIA procedures to minimize the negative impacts of development on biodiversity constitutes an important unmet need. Currently there are limited capacities within government agencies to ensure that production sector activities comply with environmental regulations and specified land use plans. In addition, the forestry and agriculture departments that are responsible for providing extension services currently have a tendency to focus on traditional agronomic and forestry information and fail to adequately integrate advice and support to encourage the adoption of biodiversity-friendly land use practices. Finally there is also a need to reorient baseline investments to support value addition for sustainably produced resources at community level, and make catalytic investments in alternative livelihoods, including, notably community based tourism to create a conservation compatible economy.

Incremental reasoning and Global Benefits: The project objective is “to operationalise Environment Sensitive Areas (ESA)—as a mechanism for mainstreaming biodiversity management into development in areas of high conservation significance”. This will be achieved through: firstly putting in place the appropriate legal and regulatory framework supported by necessary coordination mechanism that facilitate setting up of ESAs for biodiversity conservation; second the project will help defines role and responsibilities of various national and local authorities and actors in the management of ESAs; third, the project will secure the long-term integrity and resilience of these critical habitats by demonstrating ways and means for effectively integrating biodiversity conservation objectives into production sector operations, including by a) legally gazetted areas of high biodiversity as set asides—no go areas from development; b) engaging local communities and private sector partners in adopting biodiversity compatible production practices and measures; c) monitoring and enforcing compliance.

The project will operationalize one ESA in the Galoya and Kubukkan basin. Table 2 describes this landscape and Box 1 presents the criteria used for selection of the pilot landscape.

Table 2: Land use summary- Galoya and Kubukkan Basin

Land use type	Area	Description
Protected Areas (PAs)	65,000 ha	The landscape contains at least four PAs including: the Galoya National Park; the Yala east (Kumana) NP; the Lahugala NP; Senanayaka samudra Sanctuary. In addition the landscape also has several watersheds

		that provide important water provisioning services.
Forests	400,000 ha	The major forest types are dry savanna, evergreen deciduous, dry pathana forests. Several forest areas are highly degraded and forest encroachment and illicit clearing of forests for shifting cultivation is a serious threat.
Cultivated land	50,000 ha	Major crops grown include paddy, maize, pulses and various vegetables. In addition several home gardens are found with almost every household maintain one averaging 0.5 to 1 acre, estimated at around 50,000 ha.
Tea and rubber plantations	Approx. 50,000 ha	Most of the rubber plantations are found in traditional rubber growing areas such as Badulla. There are however plans to expand the plantations to non-traditional areas such as Ampara and Monaragala districts. Badulla is one the major tea growing areas while small scale tea plantations also exist in the Ampara and Monaragala districts. The landscape also borders Kandy, where tea growing was first introduced in the country.
Habitation (houses)	300,000 households	The total population is approximately 1.5 million and the habitation area covers parts of Ampara, Badulla and Monaragala districts.

Box 1: Criteria for selection of pilot landscape

Three main criteria were used to select the pilot site: a) biodiversity and ecological importance; b) diversity of land use types present in the landscape (socio-economic importance); c) and level of threats (conservation importance due to high level of threats). The selected landscape region scored highest on all the three criteria and was thus chosen as the project's pilot as described below:

- a) with a least four protected areas located in this region (Galoya NP, Lahugala NP, Yala NP and Kumana bird sanctuary), the area has very high concentration of globally important biodiversity while it is also important for other ecological and historical reasons -- Senanayake samudra is the largest reservoir in Sri Lanka in found here and the area is where many of Sri Lanka's rivers flow from (e.g. Kukukkan Oya);
- b) the diverse ecosystems present in the region supports a wide range of land use and economic sectors in the region. These include agriculture including home gardens, commercial crop plantations such as rubber, tea and sugar cane, tourism (especially in areas surrounding the PAs), forestry making it a highly important area from socio-economic standpoint. In addition this also presents opportunities to design and test various biodiversity conservation measures relevant to different sectors that can be replicated in other ESA regions in the country;
- c) this extremely high mix of land uses that give rises to multiple sectors is a major driver of biodiversity loss. In addition to the specific threats related to land use change and over exploitation in order to meet the demands from the many sectors present, the high socio-economic importance also means that it attracts high levels of investments into infrastructure building (e.g. roads, irrigation facilities) furthering exacerbating the threats to biodiversity.

As a result the project will deliver enhanced protection to over 315,000 ha of critical habitats / important areas that contain important globally biodiversity species: mammals such as Sloth bear (vulnerable), Sri Lanka Toque monkey (endemic, endangered), Kelaart's long-clawed shrew (endangered); birds such as Spot-billed pelican (globally threatened) and the rarest national bird Black-necked stork; plants such as the endemic *Stemonoporus rigidus*. The core area, outside existing PAs, (an area of around 50,000 ha) will be gazetted as a Class I Forest area, affording this land high levels of protection.

Without the project, the landscape approach that uses the designated ESAs as primary mechanism to promote effective conservation of biodiversity in production landscapes/ seascapes in Sri Lanka would likely not take place. As a result the targeted critical landscapes of high biodiversity significance will continue to face the threat of habitat destruction and loss of globally important species and ecosystems and the legal, capacity and financial barriers earlier elaborated will continue to stymie any efforts to mainstream biodiversity into ESA and landscape level land use planning and management in the country.

The global environmental benefits are as follows:

Table 3: Baseline, project alternative and global benefits

Current Practices	Alternatives to be put in place by the project	Expected global benefits
Although ESA regions have been identified, these have not been surveyed, physically marked or zoned to maximize biodiversity conservation goals Allocation of land to different uses are done per individual sectoral development plans which are not coordinated and do not consider degradation of critical biodiversity areas, loss	Critical biodiversity areas identified, mapped and reflected in land use plans for the target ESA landscape while appropriate planning guidelines are developed, tested and available for replication in other ESAs in the country. One model ESA gazetted Capacity emplaced among key land use planning and regulatory authorities to assess impacts of land use	<ul style="list-style-type: none"> • Highly biodiversity rich areas in ESA regions (total at least 315,000 ha) brought under conservation management and result in increased ecosystem connectivity and resilience. • Enhanced protection and

<p>of ecosystem function, and decrease in connectivity</p> <p>Poor coordination amongst the various regulatory authorities involved in land use planning at the national, provincial and district levels</p> <p>Where good regulations exists (such as land use restrictions applicable to fragile areas, application of EIA procedures), there is very limited enforcement of these regulations</p>	<p>permitting decisions on biodiversity and to put in place mitigation measures and or requirements to offset unavoidable impacts</p> <p>Strengthened coordination amongst authorities responsible for land use planning agencies at national, provincial and district levels</p> <p>Strengthened capacity for enforcement and surveillance</p>	<p>reduced threats ensure that populations of key species such as Sloth bear, leopard and Torque monkey remain stable or increase</p> <ul style="list-style-type: none"> • At least 50,000 ha of critical biodiversity areas declared as Class I forest area ensuring maximum protection • Threats to protected areas (total area 65,000 has) from surrounding areas reduced and rate of biodiversity loss is slowed. • Community incomes augmented, socio-economic situation improved – providing a utilitarian incentive for conservation and improving conservation status and security. • Biodiversity friendly businesses under implementation involving at least 200 households in 3 districts resulting in reduced conversion rates of natural habitat, augmented incomes and improved socio-economic situation.
<p>Key production sectors namely agriculture and tourism do not integrate biodiversity measures that reduce negative impacts</p> <p>Private land holders, farmers and local communities are not adequately engaged in managing biodiversity on their land</p>	<p>Knowledge on application of sector-specific biodiversity measures for agriculture and tourism (e.g. organic agriculture, reduced pesticide and inorganic fertilizer use, sustainable and improved agronomic practices, use of local seeds and varieties, agro-eco-nature based tourism, use of eco-labels for tourism products etc.) made available and compliance with biodiversity related regulations and guidelines enhanced</p> <p>Biodiversity mainstreamed in production sectors' plans (agriculture and tourism)</p>	
<p>Limited capacities and lack of incentives for private and communal land owners to convert to biodiversity friendly land use practices</p>	<p>Strengthened capacity of private and communal landowners in planning, implementing and monitoring community based sustainable natural resource management.</p> <p>Implementation support provided to biodiversity-friendly rural enterprises (e.g. sustainable tourism; certified NTFP enterprise) set up with market assurance through purchase agreements with buyers, and assistance with certification to ensure products meet industry standards.</p>	

Two project components are planned to address the afore-mentioned barriers to operationalizing ESAs.

Component 1: Enhanced national capacities to integrate biodiversity conservation in Environmental Sensitive Areas (ESA): Under this component, a primary output will be an updated decree on conservation and sustainable development of ESA that: a) clearly specifies ESA the lead agency, its roles and responsibilities vis-à-vis those of other sectors; b) endorses the land use planning framework developed that would be developed by the project. This government decree will also establish a national ESA strategy and action plan that makes explicit note for biodiversity conservation. The project will improve national and sub-national capacities for inter-sectoral governance of ESAs to effectively manage biodiversity. In order to achieve this, it will first facilitate the emplacement of an appropriate ESA planning framework that strongly integrates biodiversity conservation concerns and enables the development and use of biodiversity indicators and status assessment to monitor the management effectiveness of ESAs. Second, it will facilitate the development of a strategy and action plan for the management of ESA that amongst other things: clarifies the roles, responsibilities and rights of various national and sub-national authorities, actors such as communities, NGOs and private sector; define a ESA categorization typology for the country including different levels of protection and management prescriptions applicable to different categories of land use; establishes clear monitoring and enforcement mechanisms; explore financing mechanisms including public-private partnerships. For the latter, there are existing examples in the country such as the Protected Area Conservation Fund (PACF), through which the government provides financial support to fringe dwellers of selected protected areas to establish community level enterprises such as carpentry work, poultry farming, retail shops, computer training centres, and manufacturing dairy products. The current project will link with such government schemes to ensure that required funding is made available to community groups and other partners for similar ventures. Third, an effective coordination mechanism for ESA management led by the MoE and involving key relevant agencies (CEA, BDS, FD, CCD, FD, DWLC) will be put in place, that invests authority in provincial and local government to make management decisions. A decision-making system backed by appropriate information on biodiversity status and EIA results will help move harmful development investment away from ESAs and in adjacent areas where these are unavoidable, suggest mitigating measures. Thus, effective coordination and better decision-making will lead to better planning, coordination and enforcement of key strategies and actions agreed in the ESA management action plan. The project will build capacities

in key public institutions at the national, provincial and local levels to design, review and endorse Environment Sensitive Areas and also equip them with skills to incorporate biodiversity concerns into development plans (such as annual provincial investment plans; village development plans). The project will also enable the gazettal a new EPA – covering an area of 315,000 ha, in the Galoya and Kukukkan basin.

Component 2: Applying biodiversity friendly ESA management in the Galoya and Kukukkan ESA: This component shall implement the management and zoning prescriptions under the ESA land use management planning in the ESA in the Galoya and Kukukkan basin. The project will catalyze the application of strategic environment assessments (SEA) to all developments under the purview of regional and local development plans so that the likely negative impacts are identified and managed. Land use prescriptions will be developed and applied for different sectors in different areas to establish a mosaic of conservation compatible land uses; this will include, management of no go areas for development, management of production activities in key ecological corridors; and rehabilitation of critically degraded areas. The project will also put in place appropriate systems for enforcement – monitoring, penalties, surveillance and prosecution to deter malfeasance. In tandem, the economic production sectors (agriculture, tea, rubber and tourism) will be supported to mainstream biodiversity considerations into their operations. This will be achieved through a two-pronged approach of making available the technical know-how and relevant skills upliftment, while also ensuring that incentives and disincentives applicable to these economic sectors are designed and implemented. Incentives can include promoting sustainable resource management and use through branding/ certification for environmentally sustainable production operations (tea, cardamom) and other market mechanisms (e.g. premium sale of organic products); b) implementation support to select activities identified especially those at the community level (e.g. ecotourism). In addition, local communities will be supported through a revised extension strategy that will encourage land users to adopt biodiversity friendly practices. This component shall engender a change in the overall land use in the ESA as detailed below.

Land use	Current situation	Alternative proposed
Core ESA	ESA region identified but neither mapped nor zoned as per biodiversity richness and other ecological criteria. No powers to stop any form of development – face multiple threats.	High biodiversity rich areas are identified, mapped and zoned. Such area declared as Category I forest, according highest level protection to forest conservation areas. All forms of developments will be located outside.
Tea and rubber	There is limited inventory/ mapping of forest fragments and no integration or consideration of conservation of biodiversity in its operations. There are rampant illicit felling of trees for firewood, excessive use of pesticides; low awareness of biodiversity conservation and management options among staff and labourers.	These sectors will pay attention to forest fragments conservation, reducing illicit felling and regulated pesticide use in BD rich areas; staff and workforce fully aware of values of biodiversity; marketing strategy shifts to sustainable production.
Tourism	Uncontrolled tourist inflow; weak controls and regulations on visitation /infrastructure; unscientific waste disposal; transformation/ conversion of BD rich areas/ corridors into other land use. Unorganized tourism operations.	Biodiversity friendly Tourism Sector Plan in place; increased income from tourism to local communities; local Self Governments have more say over tourism management; better links between tourism and agro-eco systems existing; better garbage disposal strategy; regulations on infrastructure developments in BD rich areas; awareness created for sustainable tourism; small/medium entrepreneurs benefit more from tourism.
Infrastructure	Unregulated and unplanned physical infrastructure cause strain on resources (e.g. biodiversity, water, power etc); unplanned expansion of infrastructure (e.g roads, hotels, etc) results in degradation of habitats and hinders animal movement.	Code of conduct and compliance in place for creating physical infrastructure; retrofitting measures for reopening corridors; rationalized road network and traffic regulations.
Agriculture	Unsustainable land use practices by local communities leading to increased pressures on land and fishery resources resulting in resource degradation. Limited incomes as communities not capable of setting up viable biodiversity-friendly business ventures.	Extension package encourage mass adoption of sustainable practices in agriculture and fisheries. Increased community incomes and improved lives as a result of profits from certified, biodiversity friendly enterprises such as NTFP products and eco-tourism.

The project will utilize multiple means to mainstream biodiversity-friendly practices into different sectors. The scope and specific mainstreaming entry points will be further confirmed during the PPG exercise to ensure the main focus of the project is directed to achievable targets that will reduce the most significant threats to biodiversity in cost effective ways. Where plans and strategies at the local level for specific sectors exist, the project will support the review and revision of these plans / strategies to ensure that biodiversity conservation concerns and principles are adequately integrated into such

documents. It is envisaged that reviewed sector plans will outline sector specific biodiversity friendly production practices following extensive consultations with experts and stakeholders with a focus on identification of economically viable, cost effective, technologically feasible and pragmatic solutions. For example, in the agriculture sector it would involve promotion of organic agriculture, reduced pesticide use, etc; in the tea and rubber sector, it could include reducing effluents from treatment plants, supporting efficiency improvement measures, reducing use of pesticides etc. Land use planning and zonation will primarily support the identification and designating high biodiversity areas that will be secured through provision of elevated protection status as Class I Forest (Conservation areas). At the community level, assistance shall be provided to impart required skills for sustainable farming, organic agriculture, horticulture, handicrafts, post-harvest and value addition to agriculture produce and also sustainable NTFP based enterprises. While the potential of integrating biodiversity friendly practices into all relevant sectors will be explored during the PPG, it is expected that the project will focus largely on two major sectors namely agriculture and tourism for increased potential to realize tangible results during the project period – the guidelines and standards developed and lessons learnt will however be applicable to all the sectors.

With regard possible modalities the project will adopt a range of options. The project will support actions to strengthen capacities of key institutions at the national and local levels to assess and monitor impacts of development on environmentally sensitive areas (with a focus on biodiversity) including application of EIA procedures, strategic environmental assessment, and ensure integration of biodiversity-compatible practices in sectoral plans and strategies. The project will also work with the private sector, in particular commercial plantations and tourism operators, to provide best practices and tools on biodiversity compatible practices based on international and regional experiences and support in terms of identifying market linkages. At the community level, efforts will focus on strengthening existing and new village institutions to be able to effectively take over the role of managing natural resources based on an agreed community based natural resource management plan. Community / village institutions will also be trained for sustainable resource based livelihood approaches/ alternate livelihoods and also business development including office management and account keeping. In addition, rigorous awareness programmes and continuous community interaction with relevant entry point activities will help mobilizing these community organizations and thus build social capital among the communities. Finally, under this component, the project will also dedicate efforts towards development of a long term financial sustainability strategy. This strategy will explore a mix of approaches such as re-alignment (or increasing) existing government budgetary resources, raising additional funds from innovative approaches such as public-private partnerships, attracting CSR spending of private companies operating in or near the ESA regions. Furthermore, the project will ensure that community and farm based enterprises promoted to enhance local farm incomes and livelihoods will be based on a properly defined strong business case and supported by improved capacity of community institutions (including self-help groups) to establish and manage these enterprises to that such efforts are sustained beyond the project period.

The following describes project's innovativeness, sustainability and potential for scale-up:

a) Innovative aspects: The project approach is innovative in that it uses the land use planning framework as the basis to apply very high standards of land allocation and permitting to safeguard globally significant biodiversity in the important landscapes designated as ESAs. This complements the efforts to conserve biodiversity within protected areas and also contributes towards increasing additional areas under a conservation regime. Through this approach, the local government (province and districts) are directly handed the custodianship biodiversity and other natural resources. The project approach recognizes that monitoring and enforcement mechanisms are important but not enough to eliminate threats especially at the local community levels where they depend on natural resources for their survival. So the project approach also includes developing at the same time a system of co-management and incentives to ensure that costs to local communities are offset and their participation is adequately secured. In addition the project approach is also innovative because of the landscape level management that it takes to identify and manage a mosaic of land uses and through a systematic approach including effective coordination ensures that production and land use practices are biodiversity compatible. At the country level, it is to be also noted that using the ESAs as a management model to protect biodiversity is considered an innovative approach in itself while the multi-sectoral coordination and involvement of a multiple sectors in biodiversity conservation as opposed to one that is fully led by the conservation sector (i.e. the Department of Wildlife Conservation) is also novel approach in the country.

b) Financial and Institutional Sustainability: The project aims to ensure long-term integrity and resilience of important landscapes designated as ESAs to safeguard globally significant biodiversity by optimizing land use allocation and permitting to balance conservation and development objectives to protect critical habitat blocks, manage indirect impacts of development in other areas by integrating biodiversity conservation considerations into the activities of key economic sectors, while at the same time supporting to make livelihoods more sustainable at the community level. It will ensure financial sustainability especially post project through a financial sustainability strategy. This strategy will look at a mix of

approaches such as re-alignment (or increasing) existing government budgetary resources, raising additional funds from innovative approaches such as public-private partnerships, attracting CSR spending of private companies operating in or near the ESA regions. The focus on building capacity of community institutions (including self-help groups) to undertake participatory natural resource management and manage enterprises and farm based businesses (including post-harvest and value addition) will ensure that livelihood interventions are sustained for the long term. With regards the various capacity building interventions, the project will make sure to link with existing training or other academic institutions (both in the pilot area and at the national level with training organizations that provide pre-service and refresher courses) so that training packages and other materials developed are integrated into the curricula of these institutes. The potential institutes that can be partnered with for this purpose will be identified during the PPG. Furthermore, the project will ensure equal participation of all stakeholders in particular the local communities residing in the area in the design and implementation of activities at the community level including also participatory monitoring and lessons documentation. This approach will make it easy and increase acceptability for transfer of experiences from the pilot site to the other areas in the country.

c) Potential for scale-up: The project has in-built elements for replication. The land use planning framework, specific legislation on ESAs and the decision support systems and coordination mechanism developed under the project's component are intended inherently to apply to all ESAs in particular and broader landscape level management approach of biodiversity conservation in the country. In addition the project approach will be applied to one target ESA site, reviewed for improvement and the approach further refined and adapted for application in the other remaining ESAs in the country. It is hoped that the project approach will also have relevance to other countries in the region with similar land use planning and biodiversity management attributes. More specifically, the project has a strong element in building capacity for improved multiple-use landscape management so that appropriate technologies, tools, methods and management models can be broadcast to other sites. The project will strive to integrate strategies to increase replication in many ways. Firstly lessons learned will be documented including where applicable documentation of the process too so that these are easily accessible to all interested parties in the country. Second, the project's focus on improvement of the extension system and various training programmes will be associated with the relevant line ministries and local authorities and made available to other provinces and localities. Finally as part of a replication strategy the project will make efforts to replicate the good practices evolved during the project implementation.

A.2. Stakeholder Engagement

Stakeholder	Roles and responsibilities
Ministry of Environment	Prepares policies related specifically to biodiversity conservation in forests and wetlands together with the relevant sectoral agency including Strategic Environmental Assessments. It will provide the overall direction for the project.
Ministry of Disaster Management	It is currently operationalizing the Road Map towards a Safer Sri Lanka, coordinating disaster management stakeholders in the country and has a stake in promoting and disseminating disaster risk reduction principles and tools as broadly as possible including ecosystem-based solutions.
Biodiversity Division (BD) of the Ministry of Environment	The Biodiversity Division in the Ministry of Environment is the national focal point for the CBD & for most of MEAs. It provides policy directions towards conservation of biodiversity and will be the key implementing partner of the project.
Forest Department (FD)	The mandate of FD is to effectively and efficiently manage the forest resources both natural and plantations for the benefit of the present and future generations. Its functions are organized under six technical Divisions namely Forest Inventory and Management, Forestry Research and Education, Social Forestry and Extension, Planning and Monitoring, Protection and Law Enforcement and Environment Management. The FD will be one of the main partners in the implementation of the project and will be one of the members of the ESA coordination mechanism.
Wildlife Conservation Department(DWLC)	The DWLC is responsible for the management of the PA network within the country and will be an important stakeholder. Will be an important stakeholder and a member of the ESA coordination mechanism.
Finance Commission	The Commission is responsible for approving fiscal flows to provinces and has a stake in ensuring that regional development is balanced and not undermined by environmental risks. The project will work with and be guided by advice from the Commission in design of fiscal and other incentives for biodiversity conservation including also increased flows of government funds.
Coast Conservation Department (CCD)	The CCD has an important role reviewing and applying coastal zone development and management plans. It will be an important stakeholder in particular as they relate to coastal resources
Department of Agriculture (DOA)	The DOA is the knowledge hub for improved agronomic practices including drought risk assessment and provides extension services to farmers on sustainable agriculture and horticultural development. It also drafts policies and

	strategies relevant to the sector. DOA will be a key partner for the design of effective extension support system.
Central Environmental Authority (CEA)	Under its Environmental “Pioneer Brigade” Programme, the CEA has been training school children to provide community leadership on environmental matters. It will be an important stakeholder and also participate and become an active member in the coordination mechanism for ESAs.
Sri Lanka Tourism Development Authority (STDA):	The organization is committed towards transforming Sri Lanka to be Asia’s foremost tourism destination. The SLTDA will be an important resource and partners in the development of sustainable ecotourism strategies of the project.
The Urban Development Authority (UDA)	The UDA is the largest repository for digital maps and spatial information in the country. It also conducts training programmes for in-service officers in preparation of urban development plans in the context of environmental and climate-related risks. The project will rely on support from UDA in the preparation of GIS based maps and training programmes.
Academic institutions	The proposed project will work closely with universities (e.g. University of Colombo) and professional bodies for environment, agriculture and others as appropriate to source technical expertise. Partnerships with public sector training institutions identified as relevant during the project formulation will also be explored.
Provincial Governments	Responsible for managing affairs under different provinces including natural resource management. Will support the implementation of project activities in selected provinces.
NGOs and CBOs	There are a large number of active CSOs in the country working on varied environmental issues – ranging from natural resource management including forests and environment, conservation, environment protection, pollution control, broad sustainability issues, youth participation and environmental justice. Some of the well-known NGOs include: Centre for Environment and Development (CED), Environment Foundation Limited (EFL), Environment and Natural Resources Development Centre (ENRDC), Green Movement of Sri Lanka (GMSL), Wildlife and Nature Protection Society of Sri Lanka (WNPS), Gami Seva Sevana (GSS), Young Zoologist Association of Sri Lanka (YZ), and Youth Exploration Society of Sri Lanka (YES). Many of these NGOs though centrally located also have sub-national representation. In addition there are also a large number of local CSOs and CBOs based in the three districts (within the project area) that are working in the project area on environment, forest conservation and local community development. During the PPG the project will map existing NGOs / CSOs / CBOs in the project area, identify respective strengths and focus of different CSOs and design a strategy to partner with these organisations in various areas including but not limited to: community mobilization and organisation; research and provision of technical services; partners to implement specific activities at the local level.
Communities (women and men)	The project recognizes the women and men use natural resources differently and will be impacted differently by the project. It will pay particular attention to dimension of gender equality and women’s empowerment in the design of its interventions. Local communities in general will be key beneficiaries of the project and will be consulted with and involved in the design and implementation of the project. In addition, ethnic representation in the project area is on the other hand is high with at least 8 ethnic groups – the majority being Sinhala while Tamil (Indian and Sri Lankan) being the second largest and the Sri Lankan Moor the third largest ethnic group. The other ethnic groups are Burgher, Malay, SL Chetty and Baratha. The project will ensure that all ethnic groups are consulted with and equally involved in the project at both design and implementation stage.

A.3 Risk Management

Risk	Rating	Mitigation strategy
Institutionalization of ESA at local level will be hindered by complexity of institutional roles, and interests	Medium	As many government, community and private sector institutions will be operating at the landscape level, their cooperation and coordination will be difficult especially when the project is focusing at first at a site level conservation effort (at a PA). Unless proper legal and institutional mechanisms are in place and incentives, this may not become sustainable in the long run. The project will ensure that the coordination mechanism is built on current processes and that there are strong local incentives to work at landscape level.
The development of policy and regulatory framework for ESA may not receive adequate support	Medium	The project will employ a highly consultative approach for development of the regulatory framework drawing on reviews and inputs from various stakeholders (government, private sector, communities, local bodies and academicians) to ensure feasibility and acceptability of the proposed legal document. The proposed cross-sectoral institutional mechanism will become the vehicle for optimizing dialogue among stakeholders.
Local communities will not participate in ESA management because they fear this will lead to reduced access to use of natural resources.	Medium to high	The design, transparency and accountability through participatory management planning process will provide a means of addressing prejudices and genuine obstacles to protecting and sustainably managing natural resources. ESA sites will be identified and clear boundaries defined to provide for a variety of uses ranging from strict protection of biodiversity to its sustainable use based on conservation principles. Additionally, the project will develop strategies with local communities to address any benefits forgone as a result of ESA designation.
Climate change impacts may endanger project	Low to medium	Climate change impacts on biodiversity as a result of rising temperature, changing patterns in the seasonal distribution of rainfall and sea level rise are relevant. Major changes in biomass and species composition have been identified as possible impacts of climate change although there has been very

benefits	<p>limited research on potential impacts of global climate change on biodiversity in the country. However, experience in other parts of the world shows that local climate change and acidification of rainwater could pose a major threat to the survival of threatened endemic species such as herpetofauna and land snails, which have a very restricted distribution. Other studies have shown the critical humidity dependence of <i>Philautus</i> eggs, rendering them extremely vulnerable to global warming. Forest dieback in is also felt to be a possible result of air pollution and acid rain. Another concern is the issue of connectivity, as wet tropical forests occur in small blocks and are further isolated from each other human modified areas with a high population density. In addition climate change can increase the frequency of extreme climatic events such as tropical cyclones etc. which in turn will have adverse impacts on forests and wildlife, wetlands, coastal and marine systems and agricultural systems. With regard to the coastal areas, as an island nation, Sri Lanka is vulnerable to the risk of sea level rise and increased frequency of storms that can bring major impacts on coastal biodiversity. The many threats that these areas face as described in the earlier section can be expected to make them more potentially vulnerable to climate change. Some of possible impacts of climate change on the coastal areas include: the loss of coastal land due to sea level rise and increased coastal erosion due to more frequent and intense storm surges; adverse impacts on mangroves, coral reefs and seagrass beds which could affect marine organisms for which they form important breeding grounds; possible altered species composition and distribution, communities, and ecosystem services; changes in salinity of lagoons and estuaries, warming and ocean acidification with impacts on coral reefs, other shell forming organisms and associated species and fish stocks.</p> <p>The project proposes to address this risk in a number of ways: building a better understanding on the impacts of climate change on biodiversity and the functional integrity of ESAs (under the decision-support system to be developed by the project) – this will to support better understanding of the vulnerability to and the potential impacts of climate change on terrestrial and costal biodiversity; the project approach will secure and protect forest areas that deserve high conservation priority and ensure connectivity; and the focus on land use and sectoral planning will allow the project to insist on mainstreaming adaptation to climate change into sectoral plans especially in relation to sectors such as the coastal and agriculture sector which are most vulnerable to climate change.</p>
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A.4. Coordination with other relevant GEF financed and other initiatives

The project will first and foremost build on the strong baseline- and will coordinate with all baseline initiatives. In addition the project will coordinate with the following relevant programmes:

- a) UNDP-GEF “Strengthening capacity to control the introduction and spread of alien invasive species in Sri Lanka”. The objective of the project is to build capacity across sectors to control the introduction and spread of invasive species in Sri Lanka, in order to safeguard globally significant biodiversity. Lessons learnt under this project, for example in the process and principles in developing national regulatory frameworks and setting institutional coordination mechanisms will inform the delivery of similar results under the proposed project.
- b) IUCN/DFID “Improving Natural Resource Governance for Rural Poverty Reduction”
- c) GEF-UNDP Small Grants Programme: The GEF-UNDP SGP programme has been operational in Sri Lanka since 1994 providing community level grants to address local environmental problems. The current project will make use of lessons learnt by the programme especially in mobilizing local communities for community-based natural resource management activities under the project.
- d) UNEP/GEF "Mainstreaming agrobiodiversity conservation and use in Sri Lankan agro-ecosystems for livelihoods and adaptation to climate change": In particular the current project in pursuing its efforts to strengthen the extension system, will coordinate with and build on lessons and activities under the UNEP/GEF project. During the PPG process an appropriate mechanism to enable this will be identified.

In addition the project will also coordinate with the UNREDD project that is supporting to the country the necessary conditions for REDD including improving forest governance, strengthened technical capacities, and set up standards for ensuring compliance with social and environmental safeguards against possible negative impacts of REDD+ activities.

Description of the consistency of the project with:

B.1 National strategies and plans or reports and assessments under relevant conventions:

The proposed project is well aligned with several national strategies. The *Mahinda Chintana* (Vision for the Future) serves as Sri Lanka’s key development strategy setting out the country’s development vision for the period 2006-2016. The document has identified several environmental targets which are in support of the current project such as: increasing forest coverage by at least 30 percent; reducing barren and degraded land by 50 percent; 90-100 percent regeneration of depleted upland forest; increasing the area under protected areas; establishing a national system of marine protected areas; reducing the rate of mangrove and wetland loss to 10 percent and 90 percent respectively. Further two programmes under

the framework, the *Gama Neguma* (Village Reawakening) Community Development and Livelihoods Improvement Programme and the *Divi Neguma* (Household Economy) Programme represent large-scale community development and livelihood improvement programmes that the proposed project will be closely align with. The project is also aligned with the National Action Plan for *Haritha* (Green) Lanka in particular one specific mission (out of 10) related to ecosystems while all other missions for the period 2009-2016 are relevant to the project. The project also represents a systematic follow-up action to Strategic Thrust 1 of the National Climate Change Adaptation Strategy (NCCAS) namely to ‘Mainstream Climate Change Adaptation into National Planning and Development’ including considering the impacts to biodiversity from changes in temperature, rainfall and other changes such as salinity in coastal areas. Additionally, the project is in line with the National Physical Planning Policy (NPPP) where a number of areas are identified as environmentally sensitive and should be taken note in developing physical infrastructure. The NPPP is expected to promote and regulate integrated planning of economic, social, physical and environmental aspects of land in Sri Lanka to provide protection for the natural amenities, the conservation of natural environment, buildings of architectural and historic interest and places of natural beauty. The NPPP consider the central area of Sri Lanka as an Environmentally Fragile Region. With the ending of 30 years of protracted conflict, the Northern and Eastern Provinces are now increasingly accessible for economic activities. The Integrated Strategic Environment Assessment conducted for the Northern Province to ensure that the negative environmental impacts of the increased economic activities are identified and managed, identified a number of environmentally sensitive areas in the Northern Province that are not yet recognized as Protected Areas. These areas are important for global biodiversity. Similarly the sites in the Eastern Province have been identified by the Eastern Provincial Council in the Eastern Province Development Plan. Similarly the project is in line with the Coastal Zone Management Plan (CZMP) which addresses various issues of coastal resources management including the identification of Special Area Management (SAM) at selected coastal sites. Finally the project considers the priority actions under the slightly outdated but still widely referred NBSAP entitled Biodiversity Conservation in Sri Lanka – Framework for Action (BCAP), 1999 and its revised addendum brought out in 2007, in particular the objective to accord urgent attention and protection to bioregions that are considered high priority for conservation. The ESA sites identified for the project are part of these bioregions. The project will also align with and support the recently approved GEF-UNDP project “National Biodiversity Planning to Support the implementation of the CBD 2011-2020 Strategic Plan in Sri Lanka” which will update the BCAP according to global guidelines of CBD Strategic Plan 2011-2020.

B.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities

The project will utilize the Environment Sensitive Areas (ESA) as the vehicle to conserve globally significant biodiversity in critical habitats in the country that currently do not enjoy any form of protection. Many of the areas identified as ESA regions are classified as biodiversity hotspots and also recognized for their high levels of endemism. The project will take a landscape approach to biodiversity conservation that nests such critical habitats within a larger landscape and sustainably managed considering biodiversity conservation concerns. It will support the development of the necessary national and local policy framework that govern land use in the identified ESA regions and put in place the appropriate cross-sectoral coordination mechanisms, compliance monitoring and enforcement system to ensure that development in the area (infrastructure and production) are congruent with biodiversity conservation needs and do not undermine the biodiversity value of these critical habitats and ecosystems. A landscape level land-use plan that will guide the development and implementation of all sectoral strategies and trigger a paradigm shift from sector-focused management to multiple use management that reduces the conjunction pressures arising from different land uses will be developed. In parallel, the project will seek to engineer a paradigm shift towards sustainable practices and sustainable use of natural resources by production sectors and by local communities. The project will build the capacities of key national and local institutions and importantly also at the community level to implement these biodiversity measures and improved practices in order to ensure the long term integrity and resilience of the ESA regions. The successful implementation of this project will establish a replicable model for managing more than 315,000 ha of landscapes of high biodiversity conservation value while also contributing towards a secure and effective PA system in the country. Thus, the project will contribute towards achievement of GEF Biodiversity Strategic Objective Two: *Mainstream biodiversity, conservation and sustainable use into production landscapes, seascapes and sectors.*

B.3 The GEF Agency’s comparative advantage for implementing this project

Firstly, the project is well aligned with the approved UNDP Biodiversity and Ecosystems Global Framework (2012-2020) and in particular with Signature Programme 1: Integrating biodiversity and ecosystem management into development planning and production sector activities to safeguard biodiversity and maintain ecosystem services that sustain human wellbeing. In country, UNDP has a long-standing history of supporting biodiversity conservation, natural resource management and disaster risk reduction in Sri Lanka. As part of 2004 December tsunami recovery effort, UNDP supported


establishment of and restoration of mangrove greenbelts; and install communal and household rainwater harvesting tanks. UNDP is in the process of strengthening communities' capacities to manage forest resources through the Community Forestry project. Since 2009, UNDP is a key partner of the Department of Agriculture in the development of drought- and flood-resistant rice varieties and the promotion of appropriate technologies to grow rice in flood- and salinity-prone areas. UNDP Sri Lanka is also a core partner of the 'Mangroves For the Future' programme which empowers local communities to take action for the restoration and sustainable use of coastal ecosystems. Specifically UNDP will contribute to the success of the proposed project in a number of ways. In financial terms, with a grant contribution of US\$ 3,500,000 million UNDP will co-finance the development of risk and vulnerability profiles, the review of existing infrastructure development controls and building codes, the piloting of climate-resilient land-use plans, and educational activities on natural resource management, climate risk management at the community level. In technical terms, UNDP is well placed to integrate biodiversity conservation with climate resilient planning and instruments into a variety of donor-funded reconstruction and development projects. In doing so, UNDP can demonstrate how large-scale baseline programmes can benefit from planning using a biodiversity conservation lens, utilizing appropriate planning methods, tools and investment strategies. UNDP will support the application of tools it developed earlier in partnership with government agencies such as the Integrated Strategic Environmental Assessment for Northern Sri Lanka (consisting of a comprehensive suite of GIS-based maps); a best practice guidebook on agricultural practices in flood- and drought-prone areas; educational and awareness materials (on environment, climate change and climate-related hazards and sustainable natural resource management practices). The UNDP Sri Lanka country office (CO) has an energetic and professional environment team with a programme manager with many years of experience working on biodiversity and environmental issues in the country. The UNDP Regional Technical Adviser based in Bangkok will provide technical support to the CO for implementation, monitoring and evaluation of the project.

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 [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
B.M.U.D. Basnayaka	Secretary, GEF OFP	Ministry of Environment, Government of Sri Lanka	02/27/2013

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 project identification and preparation.					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Adriana Dinu, UNDP/GEF Officer In-Charge and Deputy Executive Director		April 8, 2013	Doley Tshering, RTA, EBD	+662 304 9100 Ext. 2600	doley.tshering@undp.org

Annex 1: Description of five potential ESA regions identified in Sri Lanka

Region 1: The area covering the Kalaoya basin (down stream of Kalawewa) and up to Gulf of Mannar along the coastal belt and the terrestrial/aquatic landscape.

The area has diverse ecosystems rich in biodiversity, endemism and several existing protected areas and proposed Man & the Biosphere (MAB) reserve. The Rock hill forests such as Manewa kanda, Parts of Wilpaththu NP, Mangroves in Kalaoya estuary and swamp area (estimated 3,000 ha), Bar reef sanctuary, Sea grass beds, proposed MAB reserve in Mannar and several FD reserves. Further it includes down stream areas of three river basins, Kala oya, Modaragam Aru and Malwathuoya. Thus, riverine ecosystems also covered. In addition man made tanks such as Kalawewa, Rajangana, and several others. The vegetation in the area includes small areas of salt marsh vegetation, and extensive beds of sea grasses; coconut plantations, cultivated land, open forest, scrub and grassland. The wetlands in the area, especially the coastal area inhabit a large number of water birds and ducks including Pelecanus philippensis, Phalacrocorax niger, Nycticorax nycticorax, Ardeola grayii, Bubulcus ibis, Egretta garzetta, E. intermedia, Platalea leucorodia, Dendrocygna javanica, Anas acuta and A. querquedula. Shorebirds, gulls and terns have also been recorded time to time. However, complete census are not available for the entire area except for the declared protected areas. Dugong Dugong dugon and the Green Sea Turtle Chelonia mydas have also been recorded in the lagoon areas of the region sometimes back.

Development is rapid with road networks and other infrastructure facility. Number of ancient and historically important sites lie in the region. All these can be linked to development of livelihood activities on a sustainable basis.

Include parts of the districts of Puttalam, Anuradhapura and Mannar. A very high incidence of poverty prevails in these parts of the districts. The targeted extent would be approximately 40,000 ha.

Region 2: The area covering from Nilaweli beach up to Chundikulam and in the coastal belt and inland linking Kilinochchi, Mankulam, Vavunia, Horawupathana and Nilaweli.

Dominated by dry deciduous forests owned by the Forest Department, include Birds sanctuaries such as Chundikulam, Water fowl tanks such as Iranamadu, Padaviya and Wahalkada. Very attractive coastal sites such as Nilaweli beach and sandy shores in Kuchcheveli falls within the region. It covers the downstream of Yanoya and Maoya basins Yan oya is an important Forest reserve in the Northern region. Several historically important sites like Thiriya lies within the region. Further several lagoons also in the coastal belt. The coastal area is typically covered with mangrove swamps and sea grass beds; plantations of Palmyra palms and scrub forest in surrounding areas. The waterbodies are of great importance for a wide variety of waterfowl, notably Mycteria leucocephala, Threskiornis melanocephalus, Platalea leucorodia, migratory ducks, Fulica atra, migratory shorebirds, gulls and terns. The region is important in providing ecological services for those migratory populations. Large numbers of waterfowl have been recorded in scattered surveys done time to time. However, no complete census available for the total proposed area.

Currently earmarked and being developed for economic activities and the impact on the remaining natural landscape is high. Hence it is vital to strike a balance. Include parts of Trincomalee, Mulathive, Vavunia and Anuradhapura districts. These areas had recorded high incidence of poverty. The targetted extent would be approximately 45, 000ha.

Region 3: The area covering Galoya basin and towards south eastern part to reach the Kubukkan oya basin and including this basin.

This area include three important national parks Galoya, Lahugala and part of Yala and Kumana bird sanctuary. Senanayake samudra is the largest tank in the region. However, several cascade water systems are within the region. Rock hill forest reserves like Maragala Mountain, a CEA declared sensitive area lies within the region. The historical significance in the area is very high dating back to King Kavanthissa era. Very beautiful beaches like Arugam bay is within the region. Besides the cultural significance, the area holds the significance in the globally important biodiversity owing to its diverse ecosystem, especially in the already declared protected areas within the proposed region. The evergreen forest area with species such as Hemicyclia sepieria and the palm Manilkara hexandra, and the Villu area (Kumana) with the mangroves Rhizophora, Lumnitzera and Sonneratia, along with Mitragyna parvifolia, Acrostichum sp and marsh grasses. Stands of Sonneratia caeseolaris include trees exceeding seven metres in height. The dense forest and semi-arid thorn scrub in surrounding areas include species such as Manilkara hexandra, Hemicyclea sepieria, Bauhinia racemosa, Cassia fistula, Chloroxylon sweitenia and Salvadoria persica.

Besides the above floral diversity, the area close to Kumana Villu Bird Sanctuary is one of the most important breeding areas for waterbirds (including migratory waterfowl) in the southeast of the country. Common water birds include Tachybaptus ruficollis, Pelecanus philippensis, Phalacrocorax niger, Anhinga melanogaster, Nycticorax nycticorax, Ardeola grayii, Egretta spp, Ardea purpurea, A. cinerea, Mycteria leucocephala, Anastomus oscitans, Thresk iornis melanocephalus, Platalea leucorodia, Dendrocygna javanica, Gallixrex cinerea, Gallinula chloropus, Porphyrio porphyrio, Hydrophasianus chirurgus and Himantopus himaniopus. Phoenicopteris ruber has often been recorded at Andarakala, Itikala and Yakkala Kalapuwas, and large numbers of Anas querquedula were also being recorded . The Black-necked Stork Ephippiorhynchus asiaticus, one of Sri Lanka's rarest birds, has been recorded in the area.

Towards the Yala area Asian Elephants Elephas maximus often occur in the marshes at Kumana Villu. Other mammals in the National Park include Leopard Panthera pardus, Sloth Bear Melursus ursinus, Water Buffalo Bubalus bubalis and the scarce and local Stripe-necked Mongoose also have been recorded.

Diverse ecosystems occur in Galoya basin including forests, savanas, grasslands and waterbodies, which facilitate sustainable existence of diverse fauna and flora. The dominant floral species such as Artocarpus sp., Berry cordifolia, Euphorbia longana, Mangifera zeylanica and Diospyros spp.in the dense forest, Mallotus repandus, Polyalthia spp. and Celtis cinnamoea in Shrub layers, and Terminalia chebula, T. Bellirica, Pterocarpus marsupium, Phyllanthus emblica and Ziziphus sp. in Savannas₁₈

have been documented earlier. A total of 32 species terrestrial mammals has been recorded in the Galoya region including some endemic as well as threatened species. *Presbytis entellus*, *Macaca sinica*, *Panthera pardus*, *Melursus ursinus* and *Elephas maximus*. More than the half of the birds species recorded in Sri Lanka (300) could be found in the Galoya region including endemic species such as *Phoenicophaeus pyrrhocephalus*, *Galloperdix bicalcarata*, and *Francolinus pictus* ssp. Other than these bird species, several number of fish eating bird categories and frugivorous birds have also been reported earlier. The area is being developed vastly by the government to promote tourism in a large scale. The region includes parts of the Districts of Ampara, Monaragala and Hambantota. Poverty level of this region is very high. The targeted extent would be approximately 35,000 ha.

Region 4: The area North-East of Sinharaja World Heritage (SWH) site, including the Rakwana hills, area South-West of SWH site covering Hiniduma, Deniyaya and Neluwa and lower reaches of Peak wilderness Sanctuary.

The peak wilderness has many sites which are still yet to explore and harbours many endemics. Its habitats are numerous and need conservation from a biodiversity perspective. In addition Wathurana marsh which is a CEA declared EPA is also taken in. The lowland forest in the lower slopes of the Peak Wilderness Range particularly consists of impenetrable thickets, which gradually change to lower canopy montane rain forest characterized by *Stemonoporus rigidus*, *Garcinia echinocarpa* and *Leucocodon zeylanicum* that occur with several other species of low canopy trees and vines. The Rathnapura, Galle and Kaluthara districts fairly large land area falls in to this region. Three River basins, Kalu, Gin and Nilwala are flowing through the region. Point endemism is fairly high in the region. Mammals present in this region include many endemic species such as *Feroculus feroculus* and *Macaca sinica*, and also important threatened species such as *Presbytis senex* and *Panthera pardus*. The bird species such as *Centropus chlororhynchus* and *Sturnus senex* are good examples of point endemism in the region where highly endangered species such as *Eurystormus orientalis* also has been recorded. On the other hand, the SWH is a site for 139 endemic trees and woody climbers, 16 of which are considered to be rare. Rare endemic palms such as *Loxococcus rupicola* and *Atlantia rotundifolia* also have been recorded in the area. Apart from high level of endemism, commercially important species like *Caryota urens*, *Calamus* sp., *Elattaria ensal*, *Shorea* sp., and *Coscium fenestratum* also have been recorded in the area.

Endemism of bird species is comparatively very high in the SWH area, where 19 of the 20 endemic birds have been reported in the area. Endangered or rare bird species such as *Columba torringtoni*, *Centropus chlororhynchus*, *Sturnus senex*, *Cissa oranta* and *Garrulax cinereifrons*, which also endemic have been recorded. Endemism among mammals and butterflies is also greater than 50%. The targeted extent would be approximately 35,000 ha. These areas lie in the outskirts of SWH site and the KDN complex. Many private sector Plantation companies owned most of the lands and they are dominated by tea. However, these plantations have specific habitats, niches which harbours plants and animals of diverse nature. Many companies are interested in protecting these landscapes for bio diversity. The companies like James Finlays, Dilma and Hayles are actively in the business of conservation. In addition private individual lands also harbours diverse flora and fauna and some have useful local races of cultivated plants protected by them. The region includes valley bottoms and hills with undulating terrain. This region will be unique for public-private partnerships in Biodiversity conservation.

Region 5: The North-Eastern region of the Knuckles Range of Mountains upto Hettipola, Laggala, Pallegama and Raththota & Rock/Hill Forests of the eastern region

The variation in elevation and topography has given rise to number of different vegetation types in the Knuckles Range of Forest and harbours numerous fauna as well. The presence of endemics is very high in the region. Some tributaries of Mahaweli arise from these hills and the Kaluganga now dammed by the Mahaweli Authority of Sri Lanka is one of the largest. The perennial streams flowing through the thick vegetation provide ample habitats for fauna. The landscape is picturesque and attracts tourist both local and foreign.

The forest area is characterised by trees such as *Drypetes sepiaria*, *Manilkara hexandra*, *Cassia roxburghii*, *C. fistula*, *Chloroxylon swietenia*, *Pterospermum canescens*, *Dialium ovoideum*, *Vitex pinnata* and *Diospyros ebum*. Also there are five endemic bird species (*Harpactes fasciatus*, *Dicrurus caerulescens*, *Megalaima flavifrons*, *Gallus lafayetti* and *Galloperdix bicalcarata*) two endemic primates (*Macaca sinica* and *Presbytis senex*) and seven endemic reptile species have been recorded along with the several mammals, amphibians and butterflies. Nationally endangered species such as *Elephas maximus*, *Panthera pardus*, *Phaenicophaeus pyrrhocephalus*, *Varanus bengalensis*, *Crocodylus palustris*, *C. porosus* and *Python molurus* have also been observed in the area. The area is getting developed through Mahaweli Moragahakanda & Kaluganga Agricultural & Irrigation project and impact on environment & natural resources are very high. In addition gem mining has been there for number of years. The Rock/hill forests of the Eastern region also considered together since several such hills exist and visible from the Knuckles. They have very unique flora and fauna being isolated and emerged from the rest in the dry zone. These are not very large extents but rich in flora and fauna.

The region is in the Matale and Polonnaruwa districts. The influence of Mahaweli river is very high in the region. The targeted extent would be approximately 45, 000ha.