PROJECT IDENTIFICATION FORM (PIF) [1]

PROJECT TYPE: Full-sized Project
TYPE OF TRUST FUND:GEF Trust Fund

PART I: PROJECT IDENTIFICATION

Project Title:	Integrating Biodiversity Conservation, Climate Resilience and Sustainable Forest Management in Central Annamite Landscapes		
Country(ies):	Vietnam	GEF Project ID:[2]	5005
GEF Agency(ies):	AsDB (select) (select)	GEF Agency Project ID:	40253- 02
Other Executing Partner(s):	Ministry of Natural Resources and Environment (MONRE)	Submission Date:	2012-09-05
GEF Focal Area (s):	Multi-focal Areas	Project Duration (Months)	60
Name of parent program (if applicable): • For SFM/REDD+ ⊠	Greater Mekong Sub-region Forests and Biodiversity Program (GMS-FBP)	Agency Fee ($):	341,546

A. FOCAL AREA STRATEGY FRAMEWORK[3]:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount ($)	Indicative Co-financing ($)
(select) BD-1	Outcome 1.1: Improved management effectiveness of existing and new protected areas. (Component 1)	Output 1.1 Improved management effectiveness of 268,140 ha.'s of protected area (PA).	GEFTF	441,454	6,635,000
(select) BD-2	Outcome 2.1: Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation. (Component 1)	Output 2.2 Sub-national land-use plans (3 provincial, 1 regional) that incorporate biodiversity and ecosystem services valuation.	GEFTF	313,500	4,975,000
CCM-5 (select)	Outcome 5.2 Restoration and enhancement of carbon stocks in forests and non-forest lands. (Component 1)	Output 5.2 Forests and non-forest lands under good management practices (Link to LD-2, Outcome 2.3)	GEFTF	464,332	7,190,000
CCM-5 (select)	Outcome 5.1 Good management practices in LULUCF adopted both within the forest land and in the wider landscape. (Component 2)	Output 5.1 Carbon stock monitoring systems established.	GEFTF	290,621	4,424,000
(select) LD-2	Outcome 2.3 Sustained flow of services in forest ecosystems in drylands. (Component 1)	Output 2.3. Suitable SFM interventions to increase/maintain natural forest cover in dryland production landscapes. (Link to CCM-5, Outcome 5.2).	GEFTF	1,182,919	17,695,000
(select) LD-3	Outcome 3.3 Increased investments in integrated landscape management. (Component 2)	Output 3.3. Appropriate actions to diversity the financial resource base.	GEFTF	74,071	1,659,000

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[1] It is very important to consult the PIF preparation guidelines when completing this template.
[2] Project ID number will be assigned by GEFSEC.
[3] Refer to the reference attached on the Focal Area Results Framework when filling up the table in item A.

				Trust Fund		
(select) SFM/REDD-1		Outcome 1.2 Good management practices applied in existing forests. (Component 2)	Output 1.2 Forest area (928,140 ha. transboundary conservation corridor) under sustainable management seperated by forest type.	GEFTF	838,309	12,718,000
(select)	(select)			(select)		
(select)	(select)			(select)		
(select)	(select)			(select)		
(select)	(select)	Others		(select)		
			Sub-Total		3,605,206	55,296,000
			Project Management Cost[4]	(select)	**189,748**	250,000
			Total Project Cost		3,794,954	55,546,000

B. PROJECT FRAMEWORK

Project Objective: To maintain and restore forest biodiversity, ecosystems and related watershed processes, enhance forest carbon stocks and strengthen climate resilience at a landscape scale in the Central Annamite region of Viet Nam.						
Project Component	**Grant Type**	**Expected Outcomes**	**Expected Outputs**	**Trust Fund**	**Indicative Grant Amount ($)**	**Indicative Cofinancing ($)**
Component 1: Improved biodiversity planning and management in the corridor landscape. Sub-component 1.1. Improve PA Operational Management.	TA	Landscape connectivity improved through integration of PA and landscape management in biodiversity cooridors. Reduced GHG emissions from avoided deforestation and degradation [est. 4,722,867 - 7,084,600 tCO2eq over twenty years]. (GEF)	1.1.1 North-South biodiversity cooridor legal framework, zonation, and partipatory land use plans in place covering 530,000 ha of communal forest and non-forest land in 34 communes of 3 provinces. (ADB) 1.1.2 East-West biodiversity coordior established covering 130,000 ha. communal forest and non-forest land and 70,000 PA ha's. (WWF). 1.1.3 One (1) new PA management board established to cover 5,680 ha's containing gloablly important unprotected species and habitat. (GEF) 1.1.4 Two PA (2) Operational Management Plans (OMPs) established with stakeholder input addressing key threats to 28,980 ha's of bio-diverse forest. (GEF.) 1.1.5 30 Staff trained in operational management planning, linked to	GEFTF	754,954	14,747,943

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[4] GEF will finance management cost that is solely linked to GEF financing of the project.

			recurrent provincial and national PA planning processes. (GEF) 1.1.6 Implementation of priority conservation activities in seven (7) PA OMPs (GEF.)		
Subcomponent 1.2. Strengthening biodiversity management planning and implementation		Status of globally important threatened species improving.	1.2.1 At least three (3) Species Management Action Plans for selected globally important biodiversity developed and implemented. (GEF.) 1.2.2 PA and trans-provincial cooperation mechanims in place for biodiversity conservation of selected target species. (GEF) 1.2.3 Transboundary (Laos-Vietnam) biodiversity conservation mechanism established for selected species. (WB) 1.2.4 Corridor baseline biodiversity assessments; follow up biodiversity and lan degradation monitoring (ADB)		
		Multi-sectoral management and planning arrangements strengthened for biodiversity.	1.2.5 National steering committee established to guide inter-ministerial cooperation on Biodiversity Action Plan. (ADB and other donors.) 1.2.6 One (1) Regional and three (3) Provincial Biodiversity Action Plans mainstreaming PA OMPs, species management action plans (linked to outputs 1.1.3-6 and 1.2.1-3, above; ADB; WWF) 1.2.7 Provincial Biodiversity Action Plans mainstreamed within relevent spatial and sectoral development planning and policy. (ADB; WWF)		

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Sub-component 1.3. Reforestation; assisted natural regeneration and enrichment of degraded PAs	Inv	PA, cooridor forests and micro-watersheds with increased natural forest cover and co-benefits.	1.3.1 10,000 ha. communal forest land restored in the north-south conservation cooridor (ADB) 1.3.2 4,800 ha. of fragmented communal protection/production forest restored in the east-west conservation cooridor (WWF).	GEFTF	1,647,252	23,406,057
		Carbon sequestration increased through forest restoration [est. 341,310 - 462,420 tCO_2eq sequestered over twenty years] (GEF)	1.3.3 Ca. 2,000 ha. of Central Annamite PA Ecological Restoration Zone prioritized, re-established as bio-diverse, carbon rich natural forest ecosystem. (GEF)			
Component 2: Landscape conservation measures at the community level. Sub-component 2.1. Improving financial sustainability through ecosystem service assessments and PES.	TA	Increased financial resources available for landscape conservation and community livelihoods.	2.1.1 Assess ecosystem service and PES potentials in Quang Tri Province. (GEF) 2.1.2 Forest ecosystem service valuation methodology piloted in 2 provinces, i.e. Quang Nam and Thua Thien Hue (ADB; WWF). 2.1.3 Ecosystem service values incorporated into Central Annamite provincial development strategy and policy. (ADB)	GEFTF	1,203,000	17,142,000
Sub-component 2.2. Improving SFM and carbon sequestration in forest landscapes.		Increased forest area under SFM [with an additional 2,873,971 - 3,592,464 tCO_2eq sequestered] (GEF)	2.2.1 Community forest protection contracts focused on community-based forest management groups and SFM for 3,300 ha. (WWF) 2.2.2 1500 individual households receive new landuse certificates for 13,700 ha, and; 12,200 ha to collective village-based forest management groups (ADB) 2.2.3 Demand-driven conservation senstitive livelihood development, small-scale community infrastructure and establishment of commune			

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			and village development (revolving) funds (ADB)			
Sub-component 2.3 Establishing Integrated Provincial Monitoring, Report and Verification (MRV) Systems		Capacity strengthened and institutionalized for carbon stock and forest monitoring in three (3) Central Annamite provinces.	2.2.4 SFM/REDD+ pilots established within the Central Annamite Conservation Cooridor, on ca. 19,977 ha. (GEF) 2.2.5 SFM co-benefit indicators developed, and tracked (including indicators on climate resilience, biodiversity, and land degradation. (ADB). 2.3.1 Establishment of carbon stock baseline and local MRV system piloted in one site in Quang Tri Province. (WWF) 2.3.3 Local level MRV system pioted in three (3) additional sites (linked to 2.2 above). (GEF) 2.3.4 MRV system established in three (3) provinces, linked to National MRV system. (GEF)			
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
				Sub-Total	3,605,206	55,296,000
			Project Management Cost[5]	GEFTF	189,748	250,000
			Total Project Costs		3,794,954	55,546,000

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

Sources of Cofinancing	Name of Cofinancier	Type of Cofinancing	Amount ($)
GEF Agency	Asian Development Bank (BCC)	Soft Loan	30,000,000
Other Multilateral Agency (ies)	World Bank (Reg IDA)	Soft Loan	9,000,000
Other Multilateral Agency (ies)	World Bank (FCPF)	Grant	3,600,000
CSO	WWF/KfW	In-kind	7,196,000
National Government	Vietnam	In-kind	750,000
GEF Agency	Asian Development Bank (CEP-BCI II)	Grant	5,000,000
(select)		(select)	

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5 Same as footnote #3.

(select)				(select)	
(select)				(select)	
(select)				(select)	
Total Cofinancing					55,546,000

D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY[1]

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (a)	Agency Fee (b)[2]	Total c=a+b
AsDB	GEF TF	Biodiversity	Vietnam	794,688	71,522	866,210
AsDB	GEF TF	Climate Change	Vietnam	794,688	71,522	866,210
AsDB	GEF TF	Land Degradation	Vietnam	1,323,147	119,083	1,442,230
AsDB	GEF TF	Multi-focal Areas	Vietnam	882,431	79,419	961,850
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
Total Grant Resources				3,794,954	341,546	4,136,500

[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

[2] Please indicate fees related to this project.

PART II: PROJECT JUSTIFICATION
A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:

A.1.1   the GEF focal area/LDCF/SCCF/ Multifocal Area strategies and objectives:

Project components address GEF focal areas including: Biodiversity (**BD 1&2**); Climate Change Mitigation (**CCM-5**); Land Degradation (**LD 2&3**), and; Sustainable Forest Management/ Reducing Emissions from Deforestation and Forest Degradation and fostering conservation, sustainable management of forests, and enhancement of forest carbon stocks (**SFM/REDD+ 1**).

The Vietnam PIF is designed to compliment and support a set of baseline projects, filling thematic and spatial gaps to:

(i)   Build Protected Area (PA) management capacities and stakeholder collaboration addressing prioritized PA biodiversity and conservation corridor threats;

(ii)   Mitigate climate change by producing CO_2 benefits, including restored and enhanced carbon stocks and avoided deforestation;

(iii)   Integrate PA forest restoration and enhanced carbon stocks to ensure GHG benefits and the sustainable provision of local, regional, and transboudary forest ecosystem services;

(iv)   Marry PA biodiversity conservation and forest ecosystem service protection into benefit sharing with local communities and wider production landscape sector strategies and planning;

(v)   Establish regional SFM/REDD+ pilots improving forest protection, land use practices and performance and reducing deforestation and land degradation pressures;

(vi)   Advance sub-national carbon stock monitoring (MRV) system, with linkage developed to national REDD+ pilots and MRV efforts.

(vii) Support the protection, management and restoration of Central Annamite conservation landscapes through biodiversity corridor sustainable financing, e.g. REDD+, CDM, PES assessment and pilot potentials.

An overview of primary linkages between the project and the GEF focal areas and Global Environmental Benefits is summarized in the following table.

Table 1: Key relationships with GEF Focal Areas			
GEF-5 Priorities	**Component 1: Improved biodiversity planning and management in the corridor landscape.**	**Component 2: Landscape conservation measures at the community level.**	**Notes on GEBs**
BD-1	Improved management effectiveness of seven Central Annamite Protected Areas.		This will include improving the management effectiveness of 7 protected areas, covering 268,140ha of land and linking these through the establishments and recognition of biodiversity corridors outside of protected areas. The PAs provide habitat for a large number of endemic and critically endangered species and a number of wider-ranging and highly threatened species. In addition, 3 species management action plans will be developed for globally important mammal species (*see section B1 and B2*).
BD-2	Protection, supporting restoration and enhancement of biodiversity and PA habitats mainstreamed into provincial and regional sector strategies and plans.		Globally important forests and biodiversity will be protected at the landscape level through a Regional and 3 Provincial Biodiversity Action Plans, and transboundary biodiversity conservation mechanisms for selected species, as well as the establishment of multi-sectorial management and planning arrangement linked to land use and other provincial planning

			processes.
CCM-5	Protection, restoration and enhancement of forest carbon stocks to increase regional climate change mitigation.	MRV system established in three Central Annamite Provinces.	Restoration and enhancement of carbon stocks covering approximately 2000 ha of restoration on bare and degraded lands within PAs with estimated additional carbon sequestered at 469,760 tonnes of CO_2eq. In addition, PA operational management planning and implementation on 205,200 ha within strict protection zones will avoid the loss of at least 19,738 ha with associated GHG emissions reductions of 5,903,734 tCO2eq. Furthermore, MRV systems will be piloted and tested in 3 provinces linked to the developing national MRV system.
LD-2	Forest functionality and cover improved to generate sustained flows of services from dry-land forest ecosystems.		Funding will be blended together with funds from CCM to target degraded PA Ecological Restoration zone of ca. 2000 ha. (See CO_2 emissions reduction estimates above).
LD-3		Increased financial resources to land users enabling them to sustain and upscale good SLM/SFM practices.	Ecosystem service values from forestlands assessed for Quang Tri Province and opportunities for PES developed in order to provide an enhanced enabling within the forest sector and at community levels to increase SFM and reduce pressures on forest resources, thereby generating a sustainable flow of ecosystem services.
SFM/REDD+1		Demonstration of good SFM practices linked to REDD+; sustinable flows of forest ecosystem services; integrated SFM in corridor landscape management.	With GEF funding, SFM/REDD+ pilots established within Central Annamite Conservation Corridors covering approximately 19,977 ha. The GEF increment will result in conservation and enhancement of an additional 3,592,464 tonnes of CO2eq.

The project will improve PA management, develop conservation corridor habitat connectivity reducing landscape fragmentation, and protect, restore and enhance the sustainability of critical Central Annamite forest ecosystem services, watersheds, and carbon sinks necessary for building forest climate resilience and sustaining Central Annamite biodiversity and local livelihoods. More specifically:

a) Biodiversity (BD-1&2): The Project responds to GEF BD-1 outcome to strengthen management effectiveness within seven (7) Central Annamite Protected Areas (or '*Central Truong Son' Special Use Forests*). Harbouring national and globally important biodiversity and protecting critical local and regional ecosystem services, the seven focal PAs consolidate forest ecosystem connectivity between Quang Tri, Thua Thien Hue and Quang Nam Provinces in Central Vietnam and trans-boundary forests in southern Laos.[6]

Following PA Conservation Needs Assessment (CNA) and Management Effectiveness Tracking Tool (i.e. METT, to be undertaken in project preparation phase), PA management boards (MBs) will be trained to develop Operational Management Plans (OMPs) in two new PA sites, and with PA stakeholder inputs, mitigate prioritized

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[6] Ca. 268,140 PA hectares connecting an additional 660,000 ha of mosaic forest watershed within the 3 focal provinces and transboundary area.

PA threats in seven PA sites. Species management action plans will support GEF BD-2 outcome and facilitate critical inputs into anticipated comprehensive Central Annamite and Provincial Biodiversity Action Plans, as well as provincial spatial and sectoral management plans.

The majority of GEF BD funding will support on-the ground implementation of OMPs, species management action plans and local level conservation activities. Combined, the work supports informed and contiguous landscape management integrating biodiversity values, multiple stakeholder inputs and solid demonstration within provincial spatial and sector management plans. *(See Component 1)*.

b) Climate Change Mitigation (CCM-5): The Project responds to GEF CCM-5 focal area through activities such as reducing forest fragmentation and improving habitat connectivity to help restore and enhance carbon stocks in selected PA ecological restoration zones (ERZs). This is to be achieved through on-the-ground investment in a mixture of targeted reforestation, natural regeneration and enrichment planting (with link to *LD2, below*); and via the baseline projects, will strengthen collaborative forest management, natural resource use and protection agreements with the local populations living in PA buffer zones and within the conservation corridor. *(See Component 1).*

Building closely upon recently established GoV/UNREDD national-level MRV mechanism and this Project's proposed SFM/REDD+ pilots, the Project will contribute to GEF CCM-5 focal area to build provincial MRV institutional capacities to account for GHG emission reduction/improved carbon stocks, develop reference carbon baseline, institutionalize monitoring systems and protocols, and support establishment of district and commune level MRV. *(See Component 2.)*

c) Sustainable Forest Management (SFM/REDD+ 1 & 2). The Project supports good forest management practices enhancing forest sector and critical Central Annamite forest ecosystem planning and management through community level, practical SFM applications, approaches and technical guidelines. The work will target a combination of a) GoV forest management units, b) watershed forest management boards and forest companies (formerly state forest enterprise, SFE) and c) community groups and smallholders[7]. *(See Component 2).*

SFM/REDD+ efforts are coordinated with ongoing and developing programs via the REDD+ National Operational Focal Point (Ministry of Agriculture and Rural Development [MARD]) and provincial management units to ensure continuity in effort and best practice. The benefits of SFM from the management of forests for protection of critical watershed services (e.g. the sustainability of water supply and reduction of seasonal soil erosion, flood and landslide problems) as well as other co-benefits to climate change resilience, biodiversity and other ecosystem services will be monitored in the pilots at local and provincial levels (*see MRV, CCM-5, above*).

d) Land Degradation (LD2): The Project will support GEF LD focal area outcome to reduce pressure on natural resources from competing land uses in the wider landscape via on-the-ground demonstration of combined forest land and watershed rehabilitation and the building of natural forest cover in the focal PAs and conservation corridor (*link to CCM-5 and Component 1, above*).

The Project also supports increased investment in landscape management and diversification of the financial resource base through assessment of ecosystem service and PES potentials, as well as sustainable financing links via REDD+ (*SFM, above*). The work is important to sustaining forest ecosystem service flows, developing evidence on forest and watershed values for decision makers and sectoral planning addressing the benefits and costs of various land management options. (*See Component 2, with link to Component 1.*)

A.1.2. For projects funded from LDCF/SCCF: the LDCF/SCCF eligibility criteria and priorities:

Not applicable.

A.2. National strategies and plans and assessments under relevant conventions, if applicable (e.g. NBSAPs, national communications, NAPAs, NAPs, NIPs, TNAs, PRSPS, etc.).

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[7] This mix and specific site locations to be further determined in PPG phase. SFM viability (i.e. type and quantity of service) will be boosted with Project linkage to GIZ/GoV SFM technical guidelines for SFEs, and developing WWF and SNV guidelines for smallholder forest management.

The Project complements implementation of relevant national programs and priorities, including:

Social Economic Development Plans:
Viet Nam's new ten-year ***Socio-Economic Development Strategy***, ***2011-2020*** (SEDS) which builds upon the achievements of its 2006-2010 Strategy. As one of the draft SEDs three mainstays, the Project will promote 'protection of natural resources and the environment' for sustainable development, with specific components dovetailing into ***Viet Nam's Millennium Development Goals to 2015***. An integral part of Viet Nam SED, the ***National Environment Protection Strategy (NEPS)*** provides additional policy orientation for national environment protection up to 2020. The Project will also contribute to the ***Provincial Socio-Economic Development Master Plans*** of Quang Tri, Thua Thien Hue and Quang Nam by emphasizing and demonstrating interlocking economic, social and environment development objectives and specific provisions supporting environment and natural resource protection, restoration, demarcation and sustainable forest management (SFM).

Biodiversity:
The Project supports the developing ***National Biodiversity Master Plan*** and GoV ***National Action Plan on Biodiversity (NAPB)*** which specify objectives to 2010 related to a) conservation and development of terrestrial biodiversity, b) biodiversity conservation and development in wetlands and marine areas, c) agricultural biodiversity conservation and development, d) sustainable use of biological natural resources, and e) strengthening of state management capacity on biodiversity and biosafety. Project focus on enhancing the connectivity and ecological integrity of the Central Annamite landscape will support the Vietnam NAPB and its orientation to 2020, including a) conservation, development and sustainable use of unique genetic resources, species and ecosystems of Vietnam; b) completion of the organizational system, mechanisms, policies and legal documents on biodiversity management in Vietnam; and c) completion of the system of (terrestrial, wetlands and marine) protected areas, with restoration of 50% of degraded natural ecosystems. The Project specifically supports actions strengthening PA management and protocols meeting both national goals and international standards.

By example, the project will enhance Thua Thien Hue's Master Plan's aim to increase the rate of provincial watershed protection forest, natural forest and Special Use Forest (SUFs, meaning PA) coverage to 60% by 2020 (i.e. to protect, restore and enrich ca. 100,000 ha of provincial forest within the next ten years), and Quang Nam Province's ***Biodiversity and Natural Resource Conservation Strategy (2005-2020)*** which seeks to define and implement best SFM practice. Species action plans and PA OMPs undertaken in the Project will also support planned development of ***Provincial Biodiversity Conservation Action Plans*** and harmonization of provincial level MARD and MONRE mandates for PAs and the management of biodiversity.

The project has been developed to work with the operational structures outlined within the GoV ***Biodiversity Law*** (2009). The long term objective of the Law targets solutions 'to biodiversity degradation; the preservation of biodiverse eco-regions; protection of rare, valuable, endangered and wild species; and ensures genetic diversity to achieve ecological balance at sustainable levels and serving Vietnam's goal of sustainable development.' The Law provides a framework for government coordination for integrated ecosystem management. The project will assist national-regional implementation of the Law through development and piloting of regulatory framework for the management of protected areas and conservation corridors. MONRE is the focal point for biodiversity conservation and coordination of ministries and ministerial level agencies in formulation of a national master plan on biodiversity. Notably, the Law:
- o Confirms decentralized power and the People's Committees (PCs) responsibility to manage biodiversity at the Provincial level (Article 6)[8].
- o Shares biodiversity benefits, between State and organizational, individual interests (Article 4).
- o Allocates State funds for the building of databases on biodiversity conservation (Article 5).
- o Requires provincial biodiversity reports to be included in the national environment report (to include current status, species distribution, number, etc.; Article 72).

The project is also closely linked to piloting of the ***Draft Decree on Biodiversity Conservation Corridors***, established under the ADB-BCC Phase I project, and which is currently being reviewed by the Prime Minister's office. The Decree outlines guidelines for biodiversity corridor planning, establishment, operation, support and monitoring.

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[8] The Provincial PCs will be the responsible for overall implementation of day-to-day project activities and sub-projects.

Climate Change:
The Vietnam ***National Target Program (NTP) to Respond to Climate Change*** (2008) aims to assess climate change impacts on sectors/areas and regions in specific periods and develop feasible plans effectively responding to climate change in the short-long term to: ensure sustainable development; respond to opportunities building a low-carbon economy, and; upholding international obligations to mitigate climate change impacts and protect global climatic systems. The NTP will be assisted through Project inputs related to restoration and enhancement of degraded forestlands as well as monitoring and valuation (MRV/MRVM) of carbon stocks.

Proposed project interventions respond to Vietnam's obligations under ***UNFCCC National Communication*** (2010) to address forest sector adaptation measures focused on both: i) protection of 'native forests,' and ii) sustainable forest management (SFM). Building upon its baseline, the GEF project proposes a unified approach to the effective management of forests, mitigation of forestland degradation and biodiversity protection *both within and outside* Vietnam Special Use Forests (SUFs, or Protected Areas). Within the important Central Annamite carbon sink, the project supports avoided deforestation in i) SUFs by strengthening management effectiveness, and via piloting of SFM will enhance long-term forest adaptation planning by ii) households, iii) communal protected forests and iv) former State Forest Enterprise. In line with internationally recognized standards and verification being promoted under the UNFCCC, the project will contribute to improved information and data by establishing sub-national Monitoring Report and Verification (MRV) consistent with and validating central level (National) GHG inventory, and linked to project SFM, build systematic observation and local on-the-ground assessment capacities (MRVM) for monitoring on the ground stock enhancements and which may be used to clarify potentials in local benefit distribution.

The project also supports Vietnam's UNFCC commitment to provide vital forest adaptation training, education and public awareness raising and is consistent with Vietnam's draft '***UNFCCC Technology Needs Assessment'*** for the Forestry sector, which highlights:
- The need for testing and applying advanced techniques of forest restoration
- Prioritization of 'recovering natural forests' over 'newly planted' areas (e.g. project forest restoration targeting PA Ecological Restoration Zones), and
- Combining social and economic approaches to forest sector adaptation (e.g. through project PA OMP and bufferzone planning, and ecosystem service inventory supporting sustainable finance/PES potentials in Quang Tri Province).

Moreover, the project's close linkage with the BCC baseline project furthers the assessment's identification of stakeholder needs in agriculture, poverty reduction and integrated natural resource use planning through address of forest tenurial issues, water management, and sustainable livelihood improvements.

Project MRV/MRVM tools and integrated ecosystem service (IES) assessement and links to cross-sector planning will assist local-national decision making and inform Payment for Ecosystem Services potentials (***PES, Decision 380, 10/4/2008***[9] and ***Decree 99/2010/ND-CP, 29/4/2010***). The NTP is underscored by ***Decision 158/2008/QD-TTg***, and the Prime Minister's approval to *mainstream climate change issues into socio-economic, sectoral and local development strategies, plans and planning*. The Annamite range is widely known as an important carbon sink, and project components that strengthen integrated biodiversity, climate change mitigation (deforestation, degradation avoidance) and SFM will be implemented in conjunction with the NTP, providing both models and guidance for mainstreaming climate issues into forest sector actions and landscape development plans.

SFM/REDD+:
The project promotes climate resilience, and conservation of carbon stocks through SFM/REDD+ strategies related to Land Use, Land-use Change and Forestry (LULUCF). This work compliments well the Vietnam ***Forestry Development Strategy*** (FDS, 2006-2020), which promotes SFM as one of its five priority program areas. The overall aim of the FDS is to reform forestry to target rural agriculture, hunger eradication, poverty reduction for people in mountainous

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[9] Developed by MARD, this decision afforded GoV PES piloting and provided important PES groundwork for forest environment services.

areas, and environmental protection,[10] and the Project will expand on a) draft MARD curricular supporting technical guidelines as legally binding SFM curricula for SFEs (developed with GIZ), and b) local level MRV pilots which have been initially piloted in small holder forest management (by WWF and SNV in the project area).

Two important programs proposed by the FDS include: *sustainable forest and management*, and *forest protection, biodiversity conservation and environment services development*. The FDS thus sets tasks, inter alia, to increase incomes from forest environmental services through the Clean Development Mechanism (CDM), ecotourism, and other services such as erosion control and water protection to USD 2 billion by 2020, and to get at least 30% of production forests certified for SFM. The FDS is strong on the need for clear ownership conditions for land and forest use so local benefits can be derived from potential transactions. Proposed Project SFM interventions will support local benefit sharing and Vietnam's **National REDD Strategy** to assist LULUCF priorities and measures outlined within Vietnam's **Second National Communication** (**UNFCCC**) including: CO_2 sequestration from change in forest and other woody biomass stocks; CO_2 emissions from soils; CO_2 within abandoned lands and; CH_4 emissions from forest and grassland conversion.

Land Degradation:
The project is aligned closely with the **National Environmental Action Plan,** and the **Vietnam-UNCCD National Action Plan (NAP)**. In order to prevent further deforestation and degradation of forests, the Government of Vietnam has announced a series of policies relating to management, protection and development of the forest resources and promoting sustainable participatory management of forests. Forest loss and degradation are major reasons for desertification and land impoverishment in the region, creating a wide range of negative impacts and challenges for economic development, the society, and its environment, such as causing more serious flooding and drought, creating difficulties in forest product supply, reducing arable land, and finally worsening rural poverty and unemployment. The Project will assist the NAP to address land degradation with enabling activities including: survey and assessment of affected areas, strengthening of legal frameworks and demonstration of sustainable natural resource management, landscape protection and restoration, improved international cooperation, information exchange, training and education.

The NAP also includes programs targeting a) advanced science and technology building upon traditional knowledge; b) forest protection and increased green-cover; c) improved water management and mitigation of natural disaster impacts, and d) poverty alleviation, with which the project is aligned with the Project. To reverse current trends in land degradation, illegal and unsustainable harvesting and natural forest conversion in the area, the Project will work with MBs and PA stakeholders to restore and protect important linking forest corridor, build healthy and functioning forest watershed, and sustainable land management supporting critical habitat for biodiversity, soil and water retention, poverty reduction and other tangible environment, social and economic impacts.

Others:
Vietnam has seen rapid progression in the past decade in the formulation of national policies, decisions and laws conducive to its commitments to international Conventions and numerous aspects of environmental management and biodiversity conservation. Some of the key legal instruments that influence the operational framework of the proposed project are as follows:

- *Decision 13-2003-QH11 – Law on Land.* Under the Law, forestland is grouped into three main groups: (i) forestland for production forests, (ii) forestland for protection forests, and (iii) forestland for special use forests (protected areas). The use of land, as mandated by the law must comply with effectiveness and efficiency requirements from the government and contribute to environment protection. The Law on Land also defines the role of *Certificates of land use right (LURCs):* a certificate issued by a competent State body to a land user in order to protect the lawful rights and obligations of the land user. Article 77 provides legal basis for land use rights in PAs.
- *See Annex A* listing other legislation providing specific guidance interpreting Project components.

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[10] MARD is the focal point for organizing the implementation of the FDS, and incorporating FDS issues into the national SED and plans of ministries, branches and local levels.

B. PROJECT OVERVIEW:

B.1. Describe the baseline project and the problem that it seeks to address:

Greater Annamite Eco-region

In 1998, international scientists recognized the importance of the landscapes and biodiversity of the '*Forested Lower Mekong Eco-region Complex'* (FLMEC), designating it a 'priority global ecosystem.' Situated at the junction of two distinct bio-geographical zones—the temperate north and the tropical south—the Greater Annamite (or '*Truong Son'*) eco-region is an important carbon sink and is critical to an eco-regional approach to biodiversity conservation[11] linking central Vietnam with southern Laos. The eco-region provides habitat for a large number of endemic and critically endangered species, including the recently discovered saola *(Pseudoryx nghetinhensis)* and northern buffed-cheeked gibbon *(Nomascus annamensis),* the large-antlered (giant) muntjac *(Muntiacus vuquangensis),* the Annamite striped rabbit *(Nesolagus timminsi),* the endangered red-shanked douc langur *(Pygathrix nemaeus),* Edward's pheasant *(Lophura edwardsi)* and the conifer *Pinus dalatensis.* A number of wider-ranging and highly threatened species, including Asian elephant *(Elephas maximus),* gaur (*Bos gaurus*), and tiger *(Panthera tigris)* are also found within this eco-region.

Central Truong Son (Annamites)

The Greater Annamite eco-region is sub-divided into the North, Central and Southern Annamites. The Central Annamites have been recognized by national and international conservation organizations and scientists as a '*Priority Landscape,'* and are deemed 'globally significant' given their outstanding biodiversity value, high level of threat and great need for conservation action[12]. The Central sub-division extends from Laos in the West into central Vietnam where it transects with six provinces[13] populated by over 30 million people. The eco-region is also known as *Pleistocene refugia*, i.e. an area that has existed as continual forest despite the previous climatic fluctuations. This has encouraged high degrees of speciation and endemism. A significant number of taxa, including the critically endangered grey-shanked douc langur *(Pygathrix nemaeus cinerea),* black-crowned barwing *(Actinodura sodangorum)* and the conifer *Amentotaxus poilanei* are known only within the Central Truong Son Landscape.

Figure 1: **Priority conservation areas of the Central Annamites**

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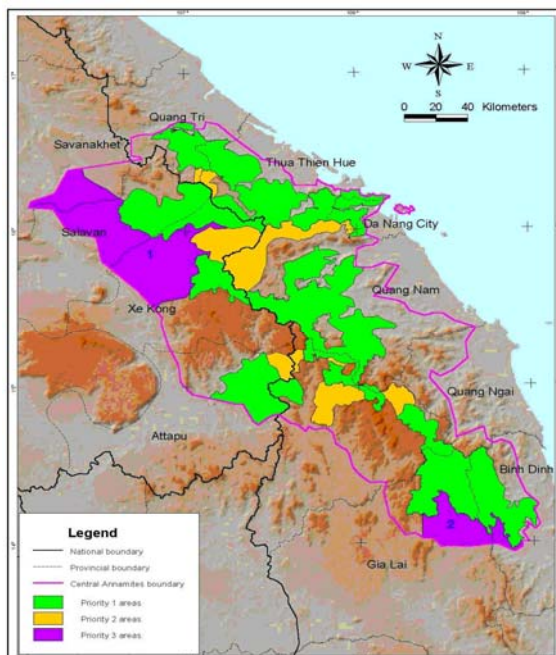
[11] With initial support from WWF-US and USAID, a program established the FLMEC as one world's first Eco-region Action Programs (EAP; 2003). The FLMEC falls within the Indo-Burma Hotspot (CEPF), is a Center for Important Plant Diversity (IUCN), and encompasses several Endemic and Important Bird Areas (EBAs, IBAs., Birdlife).

[12] E.g. Tordoff, A., R. Timmins, R. Smith, and Mai Ky Vinh. 2003. *A Biological Assessment of the Central Truong Son Landscape.* Central Truong Son Initiative Report No. 1. WWF Indochina, Hanoi, Vietnam.

[13] Quang Tri, Thua Thien Hue, Da Nang, Quang Nam, Quang Ngai, and Binh Dinh.

In a comprehensive biological assessment of the Central Truong Landscape (2003, Tordoff), the landscape was zoned into priority conservation areas (Figure 1). *Priority 1 conservation areas* were designated to support the *full range of biodiversity and biological processes in the short term* (0-10 years); priority 2 areas, could potentially support the full range of biodiversity and biological processes in the medium term (10-50 years); and priority 3 areas, could potentially make a significant contribution to the long term (50-200 years) conservation of the full range of biodiversity and biological processes in the priority landscape. Priority 1 areas encompass the mosaic of landscapes and biodiversity that best represent the central sub-division of the Central Annamites. The Project thus targets landscape and conservation pressures primarily within the *Priority 1* zones, while supporting development of the management framework for the landscape as a whole. This includes seven target protected areas (PAs) and the developing eco-region conservation corridors network.

Landscape pressures leading to fragmentation of Central Annamite Forest Ecosystems.
A key issue to be addressed by the Project is the *ongoing fragmentation of the forest landscape* and its ability to provide critical ecosystem services such as carbon storage, and to sustain biodiversity and local livelihoods. The regional economy has expanded rapidly over the past decade, and a dependence on primary sectors (i.e., agriculture, forestry, fisheries, mining), the energy sector (i.e., hydropower, petroleum products, biofuels), and natural resource-based services. Productivity gains in these sectors were based on harnessing natural capital, natural resources, and ecosystem services. Yet current trends of regional resource depletion and environmental degradation have undermined critical habitats and life-supporting ecosystem service delivery functions. Though ecosystem service values are not well identified and captured, Project PA and protection forests are reported to provide enormous socio-economic wealth, climate moderation, erosion control, water regulation, etc., with ecosystem services initially assessed (without investments) at over $1.8 billion, or over $5,000/ha in the three provinces.[14]

Combined with increases in Central Annamite human populations, regional development is also leading to conversion of forestlands for agriculture and a growing demand for energy and water. This in turn is driving development of infrastructure, especially roads, hydropower and dams for impounding water for irrigation and domestic water supply. The expanding regional economy is also driving demand for minerals that, judged by the extent of current prospecting and applications for developing mines (e.g. gold), appear relatively abundant in the corridor area. The threats to the remaining forests are therefore substantial and increasing; strong measures are needed to protect the forests, the habitats as well as the livelihoods of communities that depend on the forests and the land around them.

Central Annamite rural communities have also traditionally and continue to rely on forest natural resources for their livelihoods—especially in Project upland areas where ethnic minorities are concentrated. Project upland communities are still marginalized from regional economic development (and especially women, whose livelihoods are entwined with forest resources). Key ecosystem threats and drivers from these local communities range from swidden agriculture, increased demand for wood and wildlife products, to unchecked local land-use and poor planning leading to habitat alternation and land degradation. Encouraged by land and mining potentials, recent migrations of Kinh (majority Vietnamese) persons from lowland areas over the last decade is also increasing land pressures, and reducing forest cover in critical areas.

Central Annamite Protected Areas (PAs)[15]
Protecting and maintaining as much as possible of the remaining natural forest and restoring and expanding habitats is essential to conserve the remaining rich and globally important biodiversity in the Central Annamite

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[14] 'GMS Biodiversity Conservation Cooridors. Feasibility Report.' October 2010. Carbon storage provides the highest value, followed in order by watershed protection services, water quality regulation, soil erosion control and lastly, NTFPs.

[15] [15] A-Special Use Forest (SUF)=MARD term for Vietnam Protected Area. As defined by 2009 Biodiversity Law, SUFs are comprised of a) National Parks (NPs); b) Nature Reserves (NRs); c) Species Habitat and Conservation Areas (SHCAs), and; d) Landscape Conservation Areas (LCAs).
  B- i) It is noted here that Sao La NR covers both Quang Nam and Thua Thien Hue Provinces, with separate NR MBs appointed and managed by each province; ii) This is also the case for Ngoc Linh NR, which covers both Quang Nam and Kon Tum Provinces; iii) Project OMP and implementation work will be designed to consolidate the NR inter-provincial Management Boards within a unified NR landscape.

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region. Most of the natural forest in the Central Annamites that remains is either within PAs, or in the uplands and is seriously degraded. Available information on the extent of PA forest degradation indicates that large tracts of degraded and bare land exist, including 60,598 hectares of degraded forestland within the Project's seven target PAs. [16]

The Project will target critical gaps in the protection, management and restoration of seven PAs and the forest and agricultural landscapes between them, as illustrated in Table 1 and *Figure 2* (below).

Table 1: **Seven Central Annamite Protected Areas included within the Project Area.**

No.	PA	Province	Total PA Hectares (ha)	Total Core Zone (ha)	Total Ecological restoration zone Hectares (ha)	Total Admin. Zone Hectares (ha)
1	Phong Dien Nature Reserve (NR)	Thua Thien Hue	**41,508.7**	33,165.4	8,343.3	-
	Sao La NR (Thua Thien Hue, see no. 7, below, link w/ QN)		**12,153.0**	8,206.0	3,815.0	132.0
2	North Huong Hoa NR	Quang Tri	**23,300.0**	15,687.3	7,612.7	-
3	Ho Chi Minh Legendary Trail (Landscape Conservation Area)		**5,680.0**	1,470.0	3,827.0	383.0
4	Dakrong NR		**37,640.0**	23,590.0	13,409.0	641.0
5	Song Thanh NR	Quang Nam/(Kon Tum/TTH)	**93,249.0**	75,373.0	17,512.0	364.0
6	Ngoc Linh NR (QN and KT)		**38,109.4**	34,908.5	2,400.9	800.0
7	Sao La NR (Quang Nam/TTH)		**16,500.0**	12,800.0	3,678.0	22.0
Seven (7) Central Annamite PAs, TOTAL			268,140.1	205,200.2	60,597.9	2,342.0

Threats to PA forests include from illegal hunting, logging, illegal livestock free-grazing and other impacts related to household and buffer-zone development and landscape pressures. These threats are compounded by a lack of:

- Motivated, trained and equipped rangers implementing a defined law enforcement strategy in partnership with empowered and informed communities and other stakeholders necessary to facilitate improved protection and sustainable economic development in the landscape corridor.
- An adaptive PA management plan; budget and resources. (I.e. Resources yet efficiently utilized by trained staff to achieve realistic targets).
- Forest connectivity, appropriate land use zonation and clearly demarcated and enforced boundaries.
- Prioritized species and habitat action plans. (Lack of trained scientific and monitoring staff working with greater landscape stakeholders towards a strategic plan for area, species, forest cover, priority habitats, freshwater conservation, etc.).

Forest degradation trends
Vietnam is one of the few countries in the region to have had a significant net increase in 'forest cover' and, due in part to GoV restoration efforts and large timber imports, average deforestation rates have fallen by 18% since the late 1990's. Nevertheless, regions such as the Central Annamites still have high rates of deforestation[17] in areas crucial to watershed protection and biodiversity conservation.[18]   In Vietnam, this is in large part driven by combined effects of unchecked local and small-scale deforestation (i.e. significant forest conversion due to agricultural encroachment and local unsustainable resource use practices leading to forest degradation).

Analysis on the condition of the eco-region's natural forest suggests that areas of 'rich' and 'medium' forest are declining steadily and are being compensated for by increasing areas of monoculture plantation of lower carbon and timber stocking densities and of little value to biodiversity. At present, the majority of Vietnam forests are

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[16] Note: The ADB-BCC and WWF CarBi project have identified and prioritized critical restoration needs in connecting corridor areas of Quang Tri, Thua Thien Hue and Quang Nam.
[17] Bleaney, A., Vickers, B. and Peskett, L. 2009 What could REDD look like in Vietnam? Available at: http://redd-net.org/files/ What couldREDDlooklikeinvietnam.pdf [7 August 2011].
[18] http://www.theredddesk.org/countries/vietnam/statistics

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made up of 74% naturally regenerating forest and 25% of plantation forest. The remaining forests consist largely of degraded natural forests or plantations, with Vietnam's *primary natural forest* mostly located in its protected areas and estimated at only 80,000 ha. in 2010, or between 1%[19] and 2%[20] of the country's total forested area.

Notably, the quantity of wood being consumed in the region is currently far higher than its recorded production, with gaps in supply being generated from increased imports and reportedly by illegal logging. This has placed additional pressures on Central Annamite PAs, as well as Vietnam-Laos transboundary forests, where most areas of rich forest are still found.[21]

Climate impacts

As the quality of the remaining natural forest has been reduced, there is a consequent decline in carbon 'rich' stocks, leading to increased emissions of CO2. There is strong indication from present trends and from comparisons with other similar habitats that the impacts from climate change on this landscape will include: irregular rainfall and severe droughts; altered wildfire regimes; increased flash floods and landslides; increased erosion, siltification of waterways, shallower waterways; decreased groundwater levels, and other altered ecological processes. Moreover, climate change in the past was not concurrent with other pressures and changes that have reduced the buffering capacity of forests. Thus, the rapid pace of economic development in and surrounding the PAs and corridor forest stands to alter their integrity to such an extent that they are no longer buffered from climate change or no longer resilient to its impacts.[22]

Baseline Projects:

The proposed Project targets three prioritized Central provinces of Quang Tri (QT), Thua Thien Hue (TTH), and Quang Nam (QN) and 6 districts, 34 communes therein.[23] GEF Project interventions have been coordinated with and are designed to build upon four baseline initiatives that support Central Annamite PAs and Conservation Corridors (Figure 2) including the east-west corridor (under the CarBi Project) and the green north-south corridor (under the ADB-BCC).

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[19] Or ca. 80,000 ha. in 2010. **FAO 2010 Global Forest Resources Assessment 2010 – Vietnam Country Report. Available at: www.fao.org/docrep/013/al664E/al664e. pdf [10 February 2012]**

[20] RECOFTC 2011 Vietnam's forestry reforms. http://www.recoftc.org/site/Vietnam-s- Forestry-Reforms [8 July 2011].

[21] ICEM, 2008, Strategic Environmental Assessment of the Quang Nam Province Hydropower Plan for the Vu Gia-Thu Bon River Basin, Prepared for the ADB, MONRE, MOITT & EVN, Hanoi, Viet Nam.

[22] Daufresne M and Boet P. 2007. *Climate change impacts on diversity of fish communities in rivers.* Global Change Biology, vol. 13, pp. 2467-2748.

[23] 3 focal provinces=ca. 3.1 million people; 34 focal communes=ca. 72,881 people.

Figure 2: Central Annamite PAs and Conservation Corridors
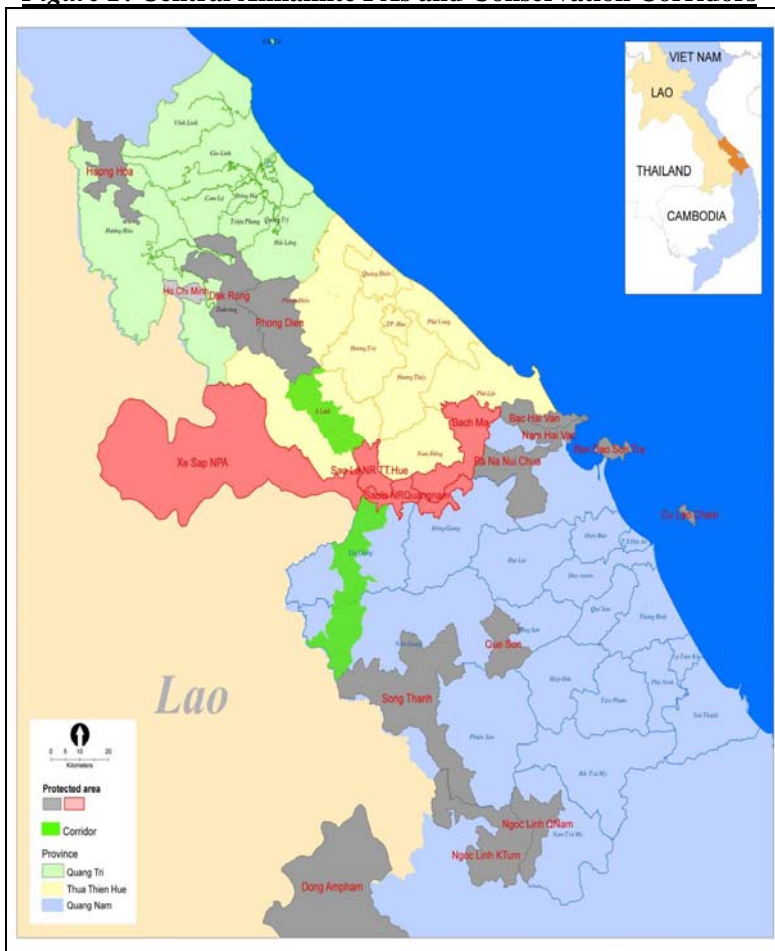
Source. WWF/CarBi project

(i) **The ADB Biodiversity Conservation Corridors Investment Project in Vietnam** ($30 M; ADB-BCC, 2011-2018).

The main baseline project is the ADB Core Environment Program and Biodiversity Corridors Initiative (2006-2010, CEP-BCI) was successful in promoting the establishment of a biodiversity conservation corridor within the large-scale landscape bordering Vietnam and Laos. As a follow-up, the ADB *Biodiversity Conservation Corridors Investment Project* (BCC) in Vietnam will provide $30 million to develop a Central Annamite Biodiversity Conservation Corridor and will establish enabling policy and frameworks and management regimes in QN, QT, and TTH Provinces. This project was designed to address provincial, district and commune institutional capacities, forest tenurial security, habitat restoration on degraded communal lands, livelihood improvements and small scale infrastructure support. The project's primary focus is on wider landscape and production areas. The impact of the project will be climate-resilient sustainable forest ecosystems benefiting local livelihoods. The project's outcome will be sustainably managed biodiversity corridors in the Central Annamites. The project has three main outputs:

> (i) *institutions and communities strengthened for biodiversity corridor management* –Investments under this output will focus on (a) the preparation of management plans and policies and legal framework for biodiversity corridors; and (b) preparation of participatory land use maps and commune and village investment plans with delineation and demarcation of permanent forest boundaries and provision of new land use certificates.

> (ii) *biodiversity corridors restored, protected, and maintained* – This outputs will focus on commune and village-based forest protection and restoration activities, including natural forest replanting, enrichment planting, NTFP planting, and agroforestry. Commune and village development fund mechanism will be used as a decentralized local instrument to receive PES and /or REDD+

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funding for carbon sequestration. The project will also assist the selected districts in the provinces to establish inventory sample plots, conduct biodiversity surveys, and draft village/commune forest management plans.

(iii) *livelihoods improved and small-scale infrastructure support provided in target villages and communes* – This output will support demand-driven conservation orientated livelihoods and small-scale infrastructure subprojects. Small-scale infrastructure support will primarily focus on (a) commune-based potable water schemes; (b) provision of waste management and sanitation facilitations; and (c) improvement of rural access roads from communes to markets. Special attention will be given to ensure that the poor and ethnic minority groups participate equitably in subproject benefits. Safegaurd procedures will be established to ensure that small scale infrastructure does not result in forest degradation or loss.

With the GEF addition, the project will provide critical support to PA institutional mechanisms, develops spatial linkage in the north-south cooridor, and will integrate important biodiversity, landscape and climate mitigation and resilience measures into spatial planning and sectoral development plans. The ADB-GEF project also targets carbon sink monitoring and reporting, and provides SFM/REDD+ as important forest-based livelihood framework to participating local communities.

(ii) **The ADB Core Environment Program and Biodiversity Conservation Cooridors Iniative in the GMS, Phase II** ($15 M CEP-BCI II regional project, co-financned by the Govt. of Finland; 2012-2016).

The ADB CEP-BCI Phase II Project will focus on improving biodiversity conservation and climate resilience across the GMS. The project is focused at the national-regional interface to build environmental planning systems, methods, and safeguards; improve management of transboundary biodiversity conservation landscapes and local livelihoods; establish climate-resilient and low-carbon strategies, and; improve institutions and financing for sustainable environmental management. Building on this, the GEF project will model cost-effective forest restoration, SFM/REDD+ interventions (upon which the CEP-BCI will build framework supporting definition of ecosystem based adaptation co-benefits), and integrate conservation landscape and biodiversity values (via ecosystem service/PES assessment; PA OMPs and Species Management Action Plans) which the CEP-BCI will integrate into subnational development processes, including Regional and Provincial Biodiversity Action Plans and sectoral planning.

(iii) **The WWF/KfW CarBi Project** ($7.2 M; CarBi).

The CarBi project aims to 'avoid deforestation and forest degradation in the border area of southern Laos and central Vietnam for the long-term preservation of carbon sinks and biodiversity.' The overall goal of the project is sustainable management of ca. 200,000 ha transboundary forest area rich in species and carbon. This project seeks to better protect and develop the interconnected conservation areas in central Vietnam and southern Laos in an east-west cooridor, to rehabilitate neighbouring forest corridors, introduce systems which make timber trade in Vietnam and Laos more transparent and, train local administrations in trans-boundary REDD mechanisms, project design and assessment of forests carbon reserves. Building on this, the GEF project will fill a strategic and spatial gap to link the east-west CarBi project to provide a more comprehensive landscape-wide approach linking PAs, bufferzones and the developing biodiversity cooridor in a joint effort to address priority biodiversity conservation issues and climate change risks. The GEF project will review, and potentially build upon the CarBi project's SFM/REDD+ for small holders farmers, as well as its local-level piloting of MRV system in the PPG phase.

(iv) **The WB Adatable Program Lending for Strengthening regional cooperation for wildlife protection in Asia** (proposed $20 M Regional IDA).

The proposed project objectives aims to assist participating governments to 'build or enhance shared capacity, institutions, knowledge and incentives to collaborate in tackling illegal wildlife trade and other select regional conservation threats to habitats in border areas'. The project will do this by building and enhancing shared capacity, institutions, knowledge and incentives to collaborate in tackling illegal wildlife trade and other select regional conservation threats to habitats in Vietnam-Laos border areas, with a particular focus on the Global Tiger Initiative partnerships. There nevertheless remain substantial gaps that the GEF addition will help to address in developing landscape connectivity on the Vietnamese side, as well as management capacities, practices and mechanisms for integrating PA landscape conservation with corridor commune, district and provincial authority plans. The GEF increment will also assist the project by integrating biodiversity safeguards and habitat

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complexity and connectivity into project SFM, as well as develop more effective and wider engagement of local communities in conservation planning and monitoring.

B. 2. Incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

The project will fill strategic spatial and thematic gaps in the Central Annamites landscape, strengthen trans-boundary cooperation processes between Vietnam and Laos, and facilitate programmatic impacts on the larger landscape between: the WWF/KfW-funded CarBi Project which is focusing on the east-west conservation corridor between Vietnam and Laos; the ADB BCC Project which is focusing on the north-south corridor outside of the PAs, and World Bank *Adaptable Program Lending* (APL) tackling illegal wildlife trade between Laos and Vietnam.

Overall, the GEF Project aims to *integrate biodiversity conservation, climate change mitigation, climate resilience, and sustainable forest management in Central Annamite Landscapes*. A unified approach is lacking and is recognized as a key constraint for development of regional ecosystem connectivity, addressing forest land degradation, filling gaps in capacity required for sustainable forest management, and supporting climate mitigation, habitat restoration, and biodiversity protection[24] within and outside Protected Areas (PAs).

The Project focuses on seven target PAs with a combined total area of 268,140 hectares and will develop critical linkage within a mosaic of forest ecosystems covering an additional 530,000 hectares of forest and non-forest land (in 34 communes of Quang Nam, Quang Tri and Thua Thien Hue Provinces), and ca. 130,000 hectares of Laos-Vietnam trans-boundary forest complex.

The Project will build upon GoV international commitments, national and provincial priorities, and baseline Central Annamite conservation programs to dedicated investment and practical on the ground activities. The GEF Project builds upon baseline initiatives to specifically target:

Component 1: *Improved biodiversity planning and management in the corridor landscape. (BD1, BD2, CCM-5, and LD-2: $US2,492,260*). The geographic placement of the focal PAs within the North-South and the East-West biodiversity corridors provides critical linkage to Central Annamite ecosystem services, including carbon rich sinks, critical watershed important to downstream users, and habitat to biodiversity of global importance.

The ADB-BCC project is designed to provide overall policy guidance and technical support to project provinces on implementing the Biodiversity Law in general, and establishment of *biodiversity corridors* in particular, with the aim of promulgating a *national decree on biodiversity corridor establishment and management*. The GEF Project will contribute important inputs into the landscape and system wide approach and afford opportunities to integrate (spatially and thematically) global environment benefits generated by improved PA management effectiveness and protection for forest restoration, livelihoods and income generation, carbon storage, wider landscape management and connectivity.

Component 1 seeks to ensure that GoV institutions responsible for PA management have the capacity to use appropriate tools and methods and apply these tools and methods for effective and sustainable PA and corridor management. Specifically, PA OMPs (1.1, below) and Species Management Action Plans (1.2 below) aid consolidation of baseline projects, and PA stakeholder inputs to support the GoV's Draft Biodiversity Conservation Corridor Decree, and National Biodiversity Master Plan which aim to mainstream PA protection and biodiversity conservation objectives into wider corridor sectoral planning.   The Project will define and address important PA management capacity gaps, threats to habitats and species, forest connectivity and buffer zone issues that will inform the development of landscape wide comprehensive Regional and Provincial Biodiversity Management Action Plans and sectoral planning.

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[24] A mandate shared by MARD (i.e. for forests and PAs) and MONRE (i.e. for biodiversity coordination).

Sub-component 1.1. Improving PA Operational Management. *(BD1 $US 454,954).* The Project will assess current implementation status of available Operational Management Plans within the seven (7) focal PAs. This strategic planning exercise is considered by the GoV protected area system as important to developing a comprehensive international standard for effective conservation management planning.

The OMPs will be developed and implemented mobilizing comprehensive stakeholder input and recurrent GoV PA investment to address main threats to the PAs via adaptive five-year plans including, by example, issues related to: improved inter-agency PA and transboundary enforcement; prioritization of staff resources and management board finances; supplementing gaps in current PA biodiversity assessment and monitoring; strengthening the implementation of laws and regulations for PA management; developing PA ranger patrol and reporting regimen; address of PA zonation and village enclaving issues; developing collaborative management, responsible benefit sharing with bufferzone communities, and; other capacity building and management planning.

The Project will (i) assist implementation of priority activities under existing OMPs (in 5 focal PA); (ii) develop new strategic OMPs in 2 focal PAs, and (iii) work with Quang Tri Provincial government to establish new protected area Management Board to cover 5,680 hectares of species and ecosystems (HCM Legendary Trail Landscape Conservaiton Area, currently under district Forest Protection Dept).

After OMP prioritization in the PPG phase, the Project will allocate about 80% of the sub-component budget to OMP implementation. Local level conservation-related activities may include benefit sharing mechanisms and PA management board engagement with local communities to improve PA enforcement; environmental education and awareness; inter-agency protection protocols; PA habitat and species management, and; other PA-bufferzone community conservation priorities.

Building improved management effectiveness in the 7 target PAs is also expected to reduce degradation and deforestation of PA Strict Protection Zones (or core areas) covering 205,200 ha of Central Annamite forest. Assuming the Project will be able to reduce by 40-60% the current *primary forest* deforestation rate (currently est. at 1.18%) and maintain at least 'medium' quality forests through improved protection, the Project will avoid GHG emissions of 4,722,867 tCO2eq to 7,084,600 tCO2eq over 20 years. (*See Annex B, tables 3 and 4).*

Subcomponent 1.2. Strengthening biodiversity management planning and implementation. (*BD2 US$329,449)* Encompassing both PA habitats and the developing trans-provincial conservation corridor, at least three 'Species Management Action Plans' will be developed to maintain, restore and improve globally and regionally important key species populations (to be selected) by managing inter-connected habitat. Species management action plans will be prioritized at a part of the preparation of the CEO endorsement. Globally important mammal species to be considered include primates such as the Red-shanked douc langur *(Pygathrix nemaeus),* Grey-shanked douc langur *(Phygathrix cinerea),* Northern buff cheeked gibbons *(Nomascus annamensis),* ungulates including the Saola, and possibly gaur, tiger and elephant. Plants, herpes, and other species should also be considered, and prioritized. The action plans will (i) marry PA species values and protection measures for strictly protected taxa into the wider landscape; (ii) develop protection measures for their habitats (PA + conservation corridor); (iii) harmonize priorities and delegate responsibilities for specific activities; (iv) establish the resources necessary to implement individual activities, and; (v) set initial guidelines for monitoring success.

Wide landscape stakeholder representation will participate in the development of the plan, to jointly align their positions on key protection issues. 25% of the grant sub-component budget will support on-the-ground implementation of the action plans with additional support expected to come from project beneficiaries to integrate key biodiversity considerations, and from recurrent GoV investment, community and inter-agency planning. The work will be underscored by regular PA biodiversity monitoring and census, community-based protection established by the baseline projects, and improved PA management (*1.1, above*).

The three Species Management Action Plans form an important input into the anticipated Regional and Provincial Biodiversity Action Plans (which will place biodiversity considerations within sector policies and be supported by development, application and monitoring of specific legislation).

<u>Sub-component 1.3. Reforestation, assisted natural regeneration and enrichment planting of degraded PAs</u>. *(CCM-5 $US478,487; LD-2 US$1,229,370=$US1,707,857 INV).* Within the conservation corridor and along the HCM Highway, ecosystem services and infrastructure investments[25] are under continuous threat from landslides, soil erosion, and now increasingly deficit in water supply due to extended dry periods or changing rainfall patterns. Restoration of forest cover and replanting is in line with the national and provincial forest sector plans to provide important economic benefits from soil and water conservation, and especially electrical power generation. The ADB-BCC project and WWF/CarBi project both focus on reforestation of degraded communal forest in the corridor[26], yet neither addresses forest restoration within the PAs themselves.

There are ca. 60,598 hectares of fragmented and degraded forest in the ecological restoration zones (ERZ) of the seven (7) target PAs. The GEF Project will prioritize approximately 2000 ha of critical degraded ERZ forest within the 7 PAs and promote direct/tangible investment in (a) restoration/replanting (with diverse native species), and (b) forest enrichment planting/gap filling (with diverse native species). In addition, a review of existing literature and good practice will recommend locally appropriate guidance such that reforestation undertaken advances and models natural forest succession processes (i.e. emphasis will be placed on ecological approaches and 'quality'/bio-diverse natural forest ecosystems). This will result in an estimated 341,310 tCO2eq to 462,420 tCO2eq sequestered via project restoration over the project lifetime (over 20 years). (*See Annex B, table 2*).

PA restoration work will also benefit the biodiversity knowledge of government and staff, and enhance natural forest landscape connectivity supporting species management and action plans (*1.2, above*). Direct on-the-ground investment comprises over 87% of the sub-component.

Given need for extensive restoration and enrichment hectare coverage and currently available funding, the restoration model must be made cost effective and replicable so that Project inputs can be readily extended. The Project has in the PIF stage reviewed ADB-BCC, WWF CarBi and KfW reforestation plans, models and costs. A review and assessment of all restoration models available in Vietnam was also undertaken by WWF, and CarBi has developed clear on site restoration priorities, tools and pilot models building local community protection benefits. Reforestation within this model costs ca. $800-$1,300 per hectare (inclusive of design, in-situ seedling and planting stock development, labor for planting, maintenance [years 2, 3 and 4], protection, etc.), with enrichment planting at a slightly lower cost per hectare. Project work targeting ERZ restoration/reforestation will require further costing and spatial prioritization within the CEO endorsement stage.

Component 2. *Landscape conservation measures at PA and community levels*. *(LD-3, SFM/REDD+1, CCM-5:US$1,255,446).* The GEF Project compliments a developing landscape-wide approach and consolidates the foundation necessary for integrated planning, adaptive management and greater expectations for on-the-ground implementation of community-level interventions, management, reporting and monitoring aimed at achieving conservation goals within the wider landscape and sector and spatial plans. It also provides critical technical linkage between PA management, production forestry and community and smallholder agroforestry to protect and enhance forest carbon stocks, reduce forest degradation, and improve habitat connectivity.

<u>Sub-component 2.1. Improving financial sustainability through ecosystem service assessment and PES</u>. *(LD-3 $US77,969).* Sustained ecosystem service flows must be accounted for as a part of total regional economic values and competing land management options. The GEF Project supports (i) assessment of ecosystem service inventory and PES potentials within Quang Tri Province. This work has practical implications for the identification and analysis of PES schemes and toward improved ecosystem and landscape management ensuring sustainable flows to local production and livelihood systems. The PES work will link with Activity 2.1.2 and 2.1.3 implemented in QN and TTH with baseline project funding.

The specific forest ecosystem to be targeted in Quang Tri will be identified in the CEO endorsement stage, and its methodology and lessons will be applicable/adaptable to related ecosystem services inventory and prioritization within the landscape. A WB '*Green Accounting*' project for Laos-Vietnam, the GMS-FBP and CEP-BCI II

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[25] E.g. 50 hydro power dams in operation, under construction or planned with a total investment of VND 78,400 billion (US$ 4.15 billion).
[26] ADB-BCC will target reforestation and enrichment planting on 10,000 ha, and WWF/CarBi on 4,800 fragmented protection and production forest hectares.

regional projects, and anticipated ADB-RETA supporting regional TEEB may build assessment upon this regional pilot work leading to benefit-cost analysis and identification of benefit sharing schemes for forest and watershed utilizing payment for ecosystem services (e.g. for carbon storage, freshwater provision, biodiversity conservation, etc.).

Sub-component 2.2. Improving SFM and carbon sequestration in forest landscapes. *(SFM/REDD+1 $US871,560)*. The Project will promote community level SFM/REDD+ interventions. The project will build on and link available local, and provincial SFM/REDD+ pilots within the conservation corridor landscape; and will support the improvement of good practice guidelines for SFM through demonstration. Over 60% of this sub-component will be dedicated to substantive and direct on-the-ground SFM development. Project SFM activities over the project lifetime will lead to an estimated sequestration of 2,873,971 tCO2eq to 3,592,464 tCO2eq of (See Annex B, table 5).

The GEF project will demonstrate SFM in 3 pilot sites (with potentially one pilot per province). Capacity building and technical training in SFM guidelines to forest management units, PA authorities and local communities will support SFM/REDD+ working groups, the development of benefit sharing protocols for performance based payments, land tenure reforms (via ADB-BCC and WWF/CarBi projects), and the implementation of ecological protocols informing community-based reforestation and demonstration per targeted biome. The 3 SFM/REDD+ pilots are to be closely linked to Project development of provincial MRV and piloting of local MRV systems *(2.3 below);* will underscore recent developments toward legally binding SFM curricula at the national level; and promote SFM knowledge and awareness raising.

The Project will aim to disseminate and expand existing SFM methodologies, training and standard operational guidelines for forest units including Watershed Protection Management Boards and forest companies (both formerly State Forest Enterprises), buffer-zone community forest smallholder plantations, and local-provincial level government forest units. Following further review in the CEO endorsement stage of available methodologies, including the GIZ SFM technical guidelines (5 distinct SFM guidelines established to support national SFM policy with key pilots in Kon Tum and Quang Binh Provinces), the SNV Participatory Forest Management pilots (near Phong Dien PA, Thua Thien Hue Province), and formative small holder certification work guiding WWF CarBi REDD+ efforts in the trans-boundary area region (bufferzone of Dakrong and Huong Hoa PAs, in Quang Tri), the GEF Project will support on the ground training and implementation of SFM/REDD+ at sub-National and local levels within the three Province ADB-BCC project area.

Continuity is to be maintained via ongoing dialogue and building upon contributions of national pilot programs, via the National REDD+ Operational Focal Point office, and the developing SFM/REDD+ management units of the three target provinces. SFM contributions via CDM, REDD+ and FSC certification may eventually be linked to project efforts and support Vietnam-EU Voluntary Partnership Agreement (VPA) negotiations. Reducing illegal logging and control via forest certification is a unique approach being developed in the project area, and business initiatives under which responsible producers collaborate with responsible processors/exporters should be promoted. ADB-BCC efforts to strengthen land tenure (e.g. via Land use rights certificates) and to assist community capacity to manage forests as long-term sustainable resources serve important foundation linking SFM/REDD+ potentials in this regard.

Linked to MRV (*2.3, below*) indicators examining and tracking SFM implementation co-benefits will be developed and employed by the ADB CEP BCI II project, including SFM contributions to the management of forests for climate resilience benefits (e.g. protection of critical watershed using SFM approaches to improve the sustainability of water supply and reduce seasonal soil erosion, flood and landslide problems). This work is in accord with recent developments of the developing $0.4 WB Trust Fund (focused on EBA for Vietnam coastal ecosystems and Laos forest management), and SNV project developing SFM/PES monitoring indicators.

Sub-component 2.3 Establishing Provincial Monitoring, Report and Verification (MRV) systems. *(CCM-5 $US305,917)*. The GEF project will support monitoring of Central Annamite SFM/REDD+ issues, enhancing institutional capacity to account for GHG emission reduction and increased carbon stocks through establishment of protocols, training and reference carbon baseline and monitoring systems (i.e. MRV). The GoV is signatory to both the UNFCCC and CBD, and has committed to developing and reporting on a set of impact and performance

indicators in this regard as a part of its National REDD+ strategy. A national level MRV framework was established under the UNREDD/FAO component (Phase I). With the Project working closely with the National REDD+ OFP, the WB FCPF (focused on the Central Highlands on SFM and REDD readiness work), a developing Phase II UNREDD project and others, the Project will build system-wide impacts by (i) establishing MRV at Central Annamite Provincial levels for QT, TTH and QN forests in order to bridge the national-regional and SFM/REDD demonstration gap through training, capacity building, and awareness raising on SFM/REDD+, and *(ii)* Pilots of MRVM at the district and commune level will be undertaken, and linked to the three proposed Project SFM/REDD+ implementation pilots (*2.2, above*).

Where possible, project MRV will be developed closely with the national MRV database, and potentially via the FORMIS project, which is integrating forest, biodiversity, land degradation and potentially MRV information.[27] MRVM systems piloted with GEF resources can be further applied/tested through the baseline ADB funded Biodiversity Conservation Corridors Investment Project. This project includes support for 10,000 ha of commune and village-based forest protection and restoration work; and the establishment of commune and village development fund mechanisms to receive PES and /or REDD+ funding for carbon sequestration. This work at village and commune levels will provides a good platform for further testing and roll-out of local MRVM systems.

Lessons learned from the above process will be disseminated and compared with other approaches at local, province and national levels as part of a dialogue process with MARD and other development partners. The project, with GEF support will facilitate this process and will assist the Government in establishing coordinated MRV systems between national and provincial levels. Given the early stage in the development of MRV systems in Viet Nam, this pragmatic approach to testing and review of lessons is considered a necessary step in developing ownership and support for a more consolidated long-term approach.

GEF increment, Summary
In conjunction with ongoing projects and programs, the Project will develop tangible on the ground activities targeting spatial and thematic gaps within the Central Annamite landscape conservation framework. Project increments include:
- 7 PA Management Boards implementing OMPs for the sustainable management of 268,140 PA hectares linked to an additional 660,000 hectares of mosaic forest watershed with benefits to high value biodiversity (with avoided deforestation of 17,764 - 21,712 ha with associated GHG emissions reductions of 4,722,867 tCO2eq to 7,084,600 tCO2eq)
- Provision of targeted investment in forest restoration and enrichment planting with benefits in enhanced carbon stocks, water and soil retention, biodiversity, climate resilience, and other biodiversity and livelihood contributions (2000 ha. of degraded PA lands restored and enhanced, with carbon sequestration of 341,310 tCO2eq to 462,420 tCO2eq).
- Good practice forest land, watershed and environmental management in SFM/REDD+ demonstration covering 19,997 ha's of forest with estimated carbon sequestration of 2,873,971 tCO2eq to 3,592,464 tCO2eq.
- The integration of multiple stakeholder inputs and on the ground actions (e.g. SFM, ERZ restoration, OMPs, species action plans, link to bufferzone and provincial sectoral planning) supporting globally important species and habitats;
- PES/ecosystem service assessments in one province (i.e. Quang Tri);
- Provincial and local level MRV linked to on-the-ground work with farmers in producing emissions reductions, defining benefit distribution, bridging national-regional policy and implementation, etc.

Overall, the Project will develop and disseminate best practice learned from successful application of integrated SFM/REDD+, forest ecosystem services, and PA and multiple stakeholder participation in Central Annamite conservation cooridor development.

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[27] Department of Forestry, MARD project funded by the Government of Finland which is developing a 'modern information system from central to local levels in order to provide accurate information for decision making in forestry.'

Implementation arrangements.

GoV local-national departments are expected following the life of the Project to continue to be able to maintain the project as a part of their regular responsibilities; the value of improved SFM, biodiversity, climate mitigation and landscape connectivity known (and owned) by Central Annamite communities, and recorded as improvements in the landscape's biodiversity, habitats and ecosystem services.

The Executing Agency (EA) for the proposed project will be MONRE, which will be responsible for overall project coordination, safeguards and guidance on policy as specified in the project. Other agencies to potentially be involved in the implementation of the project include MARD, its departments, and relevant MARD/MONRE agencies at the provincial, district and local levels.

Institutional arrangements are to be further discussed during the PPG phase, following guiding principles ensuring project implementation effectiveness and efficiency, and supporting the synergies with the ADB-BCC and other baseline initiatives.

B.3. Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF). As a background information, read Mainstreaming Gender at the GEF.

The project will improve the security of natural resources in PAs and conservation corridor, providing for sustainable management and utilization of forests. The overall project impacts will contribute to improving living quality and increase income of poor, ethnic minorities living in mountainous areas of Central Viet Nam. Agriculture and forest tree plantations are the primary means of livelihood in most sample communes, with variations in levels of mode of production. The project will increase the availability of natural resources for food and food security by stabilizing the ecosystem and hydrologic system functions supporting both regional agriculture and forest sectors, basic human needs, livelihoods and employment. The project will also provide tools/knowledge to local communities to account for NRM changes and capture the benefits of NRM and SFM improvements (e.g. local level MRV).

Improving ecosystem services flows (such as improved water quantity and quality) in the project area will also contribute to sustainable development and will help to maintain significant regional hydropower infrastructure as well as reducing damage cost of rehabilitating road infrastructure from landslides. For example, the restoration and sustainable management of forests will lead in the medium and long term to marked reduction in soil erosion and subsequent sedimentation of existing reservoirs and hydropower facilities downstream. Power cuts due to capacity problems can be reduced leading to better productivity in other sectors. Furthermore, the established biodiversity corridors with regional connectivity and trained personnel in the provincial systems with project SFM initiatives can leverage additional international transfer payments to the country in terms REDD, CDM and forest certification.[28]

Poor, indigenous and forest dependent persons are key project stakeholders and local beneficiaries of the project. Within the project area, ethnic minority groups who dominate local populations (ranging from 77% in QT, 91% in TTH and 92% in QN) should also benefit from the project. Forests play an important role in the lives of ethnic minority households, the majority of whom live near of within forest, and whose livelihoods depend greatly on the sustainable flow of ecosystem services and products (e.g. timber as well as non-timber forest products used for household consumption and income generation). Through OMP implementation, the project will thus also support important collaborative and participatory work facilitating PA-bufferzone community benefit sharing mechanisms and natural resource use and protection agreements.

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[28] While prices estimated for carbon sequestration vary across different sources, (i.e. the Intergovernmental Panel on Climate Change [IPCC] Fourth Assessment Report [IPCC 2007] suggests prices ranging between US$20-US$50 per ton of CO_2, while the average price in the Clean Development Mechanisms [CDMs] in general is US$10.5 per ton of CO_2. In 2009, carbon prices for forest management and agro-forestry projects in voluntary carbon markets ranged from $5 - $16 per ton of CO_2) US$ 5/ton of CO_2 is taken for estimation of value of carbon storage in the PIF stage, equivalent to 1,312,539 tons under the SFM component X $5, or ca. $US 6,562,695.

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Of the thirty-seven ethnic minority groups in the project area, nineteen are considered indigenous (and of the Mon Khmer language group). These groups include the Gia Rai, Bana, Ka Tu, Ta Oi, Ruc, Bru, Pa Co, M'nong, Gie Trieng and others. Each ethnic group has its own distinct traditions relating to natural resource exploitation and management, and typically use land and forest resources according to communal arrangements. During preparation of the project it will therefore be important to involve ethnic minority groups and indigenous peoples (along with other stakeholders) in the design of project interventions. This will be needed to ensure that sustainable indigenous forest management practices can be maintained (such as through community co-management arrangements) while ensuring benefit for biodiversity protection and local livelihoods.

Moreover, it is recognized that minority women face additional barriers to capacity and support, and given their importance to both household life and sustainable forest management, will be targeted as part of project preparation and for inclusion in key project opportunities.

B.4 Indicate risks, including climate change risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the project design:

The primary risks and management strategies during project implementation are as follows:

Risk identified	Risk level	Mitigation Measures
Integration of multi focal area objectives amongst different stakeholders	Medium	Stakeholder involvement in project inception, work planning and implementation. Greater landscape stakeholder inputs to specific design (e.g. SFM/REDD+ pilots, OMPs, species management action plans) will integrate and balance multiple objectives.
Challenges of inter-agency collaboration on biodiversity conservation and protected area management.	Medium	Project management and institutional arrangements will emphasize senior level commitment, clear roles and responsibilities, regular communications between agencies and allocation of budget for relevant duties.
Political commitment to develop institutional mechanisms for landscape conservation.	Medium	Incremental change to legislation/policy directives to be pursued via baseline project development of Regional and Provincial Biodiversity Action Plans; project develops required consultation and builds on current and extensive development planning processes at local, provincial and national levels.
Landscape scale coordination between programs and across international borders	Medium	Partnership agreements to be established between the key development programs in Central Annamites for joint activities of mutual benefit. Project activities, including those related to PA planning, will (i) advocate and provide benefits of science-based decision support methods to balance development and conservation objectives; (ii) negotiate the conditions for land use policy that focus on well-documented biodiversity values and core conservation priorities; and (iii) encourage decision making about economic concessions based on technical inputs on ecosystem valuation, potential biodiversity impacts and rigorous mitigation and compensation criteria and process.
Local support for proposed forest and SFM interventions	Medium	Participatory processes and engagement of local partners and community organizations in the preparation of activity work plans.
Climate change impacts	Medium	Addressed through project adaptive PA management, integrated landscape management planning, LULUCF, etc. MRV and biodiversity monitoring within PA and

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		species management plans will track potential impacts of climate change on key species and ecosystems.
Duplication of efforts re: SFM/REDD+ and MRV.	Low	Project design; inception meetings; working planning and implementation; harmonized updates provided through national focal points, provincial management units and ongoing consultation.

B.5. Identify key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:

GEF implementing Agency: AsDB is the GEF Agency for this project and will be responsible for overall project supervision; ensure consistency with GEF and ADB policies and procedures, and; will provide guidance on linkages with related ADB BCC, CEP-BCI Phase II projects and GEF-funded activities.

Executing Agency: In close collaboration and cooperation with ADB and the Ministry of Agriculture and Rural Development (MARD), the Ministry of Natural Resources and Environment (MONRE) will be responsible for the implementation of the project in accordance with project and baseline objectives and activities.

Institutional responsibility for forestry sector, biodiversity and natural resource and environment management at national level includes both MARD and MONRE. MARD has overall responsibility for managing the system of Special Use Forests (SUFs). MONRE is responsible for the Ramsar Convention, the Convention on Biological Diversity and coordinating the implementation of Viet Nam's Biodiversity Action Plan. In addition to MARD and MONRE, the Ministry of Planning and Investment (MPI) plays an important role in forestry sector and natural resource and environmental management. The MPI, through the annual budgeting process, is responsible for setting funding levels and negotiating budget allocations with sectoral ministries and the provinces, including budgets for PAs.

Provincial Peoples Committees (where project PMUs are anticipated to be based) and the 7 Central Annamite Protected Area Management Boards are also important stakeholders. These stakeholders are instrumental in guiding and implementing project mainstreaming efforts with GoV sectors/departments and leading the day-to-day management of the Project. District and commune leadership are also important project stakeholders, and important to developing components focused on SFM/REDD+ and MRVM pilots, as well as work with community forest management groups, upland ethnic minority communities and households. GoV forest management units, including forest companies and watershed management boards, and other potential businesses may also be involved in sustainable forest management components of the project.

Local subsistence and ethnic minority farmers are also key stakeholders of the Project. As key target beneficiaries, local farmers, their communities and interest groups will actively participate in project SFM/REDD+ pilots, forest protection and restoration, agro-ecosystem and related livelihood, awareness and community-based activities. In many cases, local stakeholders have high levels of dependency on forest resources within protected areas, and recent approaches engaging local stakeholders and exploring collaborative management will be undertaken in the project.

In general, the project will support a highly consultative and participatory approach ensuring local communities are both benefitting from PA and conservation corridor management, and supporting appropriate conservation objectives through conservation and landscape management-related activities. As mentioned above, opportunities for gender will be pro-actively pursued through terms of reference for components, which will also include gender dimensions in design of activity programs, recruitment and beneficiary selection in community-level actions. Specific measures incorporating gender and building ethnic minority participation will be addressed further within the CEO endorsement stage.

International donors (e.g. GIZ, WB, JICA, UN-REDD, EU, Finland, Norway, USAID, etc.) and civil society organizations and programs both national (e.g. VCF, CRES, PanNature, ENV) and international (e.g., WWF, Birdlife, SNV, FFI and others) will inform implementation of activities and facilitate the participation of communities in the Project. The Project will continue to engage these important stakeholders in developing

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Project components and activities, sharing lessons learned, best practices, technical guidance and innovations for maximum landscape and conservation corridor coordination.

B.6. Outline the coordination with other related initiatives:

The project will build on and coordinate with the following related initiatives:

The *WWF Mosaic Program* (2002-2005, Quang Nam) and *Green Corridor Project* (2004-2008, Thua Thien Hue) along with the *ADB-BCI Phase I* (2006-2009, focused on Quang Tri and Quang Nam) formed the original baseline Central Annamite conservation corridor projects addressing key threats, drivers and conservation opportunities in the contiguous stretch of forest linking lowland coastal Vietnam forests to transboundary Vietnam-Lao PDR highland forests. GEF-World Bank, ADB, WWF, SNV, the GoV and other partners funded these projects.

The *ADB Biodiversity Corridors Conservation Project (ADB-BCC)* in Vietnam is designed to (i) provide forest tenurial security to poor households and indigenous groups for collective management of forest resources; (ii) restore habitat on degraded communal forest lands; (iii) improve livelihoods and income enhancing small scale infrastructure; and (iv) generate labor employment. The GEF Project will fill strategic special gaps, and facilitate BCC and other programmatic impacts on the larger landscape. The *ADB Core Environment Program and Biodiversity Conservation Corridors Initiative*, Phase II (*ADB CEP-BCI II*) will build environmental planning systems, methods, and safeguards; improve management of transboundary biodiversity conservation landscapes and local livelihoods; establish climate-resilient and low-carbon strategies and; improve institutions and financing for sustainable environmental management. The Project will assist this regional project with coordinated national actions for the sustainable management of forests and priority conservation landscape, including development of baseline inputs for Regional and Provincial Biodiversity Action Plans. A developing *ADB Regional TEEB Project* mainstreaming ecosystem and biodiversity into decision-making will also be linked to the ecosystem inventory and prioritization proposed by the GEF project.

The *WWF/KfW CarBi Project* (CarBi) aims to avoid deforestation and forest degradation in the border area of southern Laos and Vietnam. The GEF project will provide a more comprehensive landscape wide approach that will link PAs, bufferzones and biodiversity corridors in a joint effort to address priority conservation and climate change risks. The GEF Project will also build upon the associated *WWF/Switzerland SECO* project (focused on 300 Quang Tri households and FSC certification), and the *WWF Sweden/Ikea* project 'promoting forest restoration and responsibility in forest management.'

World Bank Adaptable Program Lending for strengthening regional cooperation for wildlife protection in Asia. The developing WB project will assist address illegal wildlife trade and other select regional conservation threats to habitats in Vietnam-Laos border areas, with a particular focus on the Global Tiger Initiative partnerships. The Project also builds upon *WB Forest Carbon Partnership Fund*, which is planning SFM/REDD readiness work with former State Forest Enterprises in the Central Highlands, as well as *WB Trust Fund*, which will address ecosystem based adaptation in Vietnam (coastal ecosystems) and Laos (forest ecosystems).

SNV, Participatory Forest Monitoring and Inventory (PFM). With a focus on Lam Dong Province at present, PFM is an 'operating system' with social, climate and governance applications useful to restoration. The project will also look to build upon SNV SFM/REDD+ work with community forest groups and MRVM within Thua Thien Hue Province.

The project will extend the outcomes of the WB/GEF funded *Vietnam Conservation Fund* in the region, by building off existing METTs, and five will support implementation of PA OMPs, collaborative management arrangements and other work, while broadening the range of appropriate interventions to strengthen PA forest and watershed conservation and rehabilitation.

The **UNREDD/FAO project** (Phase I 2009-2011, 4.4M) based in the Department of Forestry (VN-Forests) of the Ministry of Agriculture and Rural Development (MARD) sought to improve institutional and

technical capacities for national coordination to mangage REDD activities in Vietnam. The project was also important for establishing national level awareness raising on REDD, and initiated tools to implement a national REDD programme, including MRV at the national scale (from a central government point of view). Rights to use the SPOT5 satellite system (2m resolution) were purchased by the government to assist national level montiroing. Given UNFCCC talks about bi-annual updating of national GHG, the system (which was to be employed every five years) is currently deemed too expensive (as was LiDAR under WWF CarBI), and as such are not currently considered feasible investments within a developing UNREDD Phase II project. FAO/UNDP and the GoV are now considering the use of less expensive, higher resolution systems, and which may include use of a soon to be deployed and LandSAT satellite (30m resolution, free for all to access/use).

Given major impacts of deforestation on Vietnam forests by small-scale logging and forest conversion for agriculture, more accurate data is required at sub-national levels. While provincial level awareness raising and discussion are important (and as are proposed under currently developing *JICA project in Dien Bien Province*, and under *UNREDD/FAO Phase II* project in six provinces i.e. Bac Can, Lao Cai, Ha Thinh, Binh Thuan, Lam Dong and Ca Mau), the GEF project is unique in that it makes the critical link between work on the land with communities (via project SFM and PAs) to actually produce emissions reductions and develop hands on, on-the ground monitoring of stock enhancements (MRVM) to assist quantification of project restoration and protection contributing to defining/assigning local benefits. Project inventories on specific Central Annamite forests will also provide national level MRV with specific/important forest type emissions factors, and that may useful for gauging other similar forest types.

GIZ Management of Natural Resources Program. At the central and provincial level, GIZ is working with MARD-VN Forests to develop technical curricula (supported by legally binding MARD circular for SFM) including guidelines for: *Forest Management Inventory; Forest Function Mapping; Sustainable Management Planning; Harvesting Design, and; Reduced Impact Logging* (in accordance with FSC standard). The project will examine potentials to expand these pilots and guidelines within QT, TTH, and QN Provinces.

Other.

C. DESCRIBE THE GEF AGENCY'S COMPARATIVE ADVANTAGE TO IMPLEMENT THIS PROJECT:

With support from the Asian Development Bank, Greater Mekong Subregion Governments identified the most important biodiversity conservation landscapes in the subregion that are vulnerable to increased development pressures and environmental degradation. The ADB is currently implementing Phase II of the Biodiversity Corridors Conservation Project in the Central Annamites area and has been implementing the Greater Mekong Subregion Biodiversity Conservation Corridors Initiative since 2005, when the pilot phase was endorsed by the GMS Summit of Leaders in Kunming. Close relations are maintained with the both donors and international conservation NGOs that have related programs in the region. ADB also manages the program of the Working Group of Environment Ministers of the GMS countries as well as the Environment Operations Centre (ADB-EOC) in Bangkok and is strategically positioned to deliver both national and regional support services related to GMS and Central Annamite landscapes, forests and biodiversity.

C.1 Indicate the co-financing amount the GEF agency is bringing to the project:

The ADB-BCC Project will be the main co-financing partner in the Project, with amount of $30M. The GoV via GEF OFP has initially confirmed $750,000 in-kind contribution. (The GEF OFP has also dedicated $150,000 STAR allocation to the project's preparation phase). Initial discussions on co-financing have also taken place with World Bank, the WWF Greater Mekong Program and WWF Vietnam, and other projects. Co-financing will be further assessed with commitments officially secured within the PPG phase.

C.2 How does the project fit into the GEF agency's program (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:
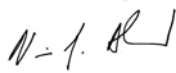
The Project "*Integrating Biodiversity Conservation, Climate Resilience and Sustainable Forest Management in the Central Annamites Landscape*" of Vietnam falls under the proposed ADB-WB GEF Forest and Biodiversity Program in the Greater Mekong Subregion (GMS-FBP). The ADB Core Environment and BCI Programs fall under the *GMS Economic Cooperation Program Strategic Framework* (CEP, 2012-2022). The Project is also consistent with the *ADB Country Partnership Strategy* (CPS) for Vietnam and the *GMS Regional Strategy*. It is also aligned with *ADB Strategy 2020*, and its *Environmental Operational Directions (2011-2020), which highlight the need for,* integrated environment management programs to address climate change and biodiversity conservation.

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)*
Dr. Nguyen Van Tai	Director General Institute for Strategic Policy of Natural Resources and Environment (ISPONRE)	**MINISTRY OF NATURAL RESOURCES AND ENVIRONMENT (MONRE); HANOI, VIETNAM**	**08/31/2012**

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.					
Agency Coordinator, Agency name	**Signature**	**DATE** *(MM/dd/yyyy)*	**Project Contact Person**	**Telephone**	**Email Address**
Nessim Ahmad Director, Environment and Safeguards concurrently Practice Leader (Environment) Asian Development Bank	*N-1. AR*	09/19/2012	Sanath Ranawana, Senior Natural Resources Specialist	+662 263 5341	sranawana@adb.org

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Annex A: Additional Vietnam legislation providing Project guidance.

Additional legislation providing specific guidance and interpreting Project aspects is listed in brief, below:

- *Forest Protection and Development Law (2004).* The project is aligned with FPD Law and support for activities related to forest protection and development. This Law is implemented in a way that contributes to SFM, and complies with socio-economic development planning and the forestry sector development strategy. The Law also provides a legal framework for mobilizing investment in forest protection and development from non-state actors and specifies legal mechanisms for investing in rural upland infrastructure and enhancing local livelihoods.
- *Decision 192/2003/QD-TTg – Management Strategy for a Protected Area System (MASPAS).* A key policy document, the Prime Minister defined principle responsibilities for Protected Areas and implementation of the strategy: *"MARD is responsible for managing Protected Areas of the Special Use Forest (PA) system; MoFi is responsible for the organization and management of Marine Protected areas (MPAs; department and mandate later moved under MARD by Decision No: 23/2008/QD-BNN) and MONRE is responsible for organizing and managing wetlands".*
  - Within the current context, this Project along with others, recognize and seek address of the overlapping responsibilities for biodiversity management within PAs. This inter-ministerial coordination issue will require additional clarification from the Prime Minister, and the developing ADB CEP-BCI Phase II project will attempt to address the issue via Provincial Biodiversity Action Plan development. Decisions currently available and providing further clarity include:
  - *Decision No: 22/2008/QD-BNN*: This decision underscores MARD Forest Protection Department (FPD) functions, tasks, powers and organizational structure in managing the system of PAs, oversight of the 5 Million Hectare Reforestation Program (supporting protection and reforestation activities), review of Management Board (MB) budgets, etc. Given PA targets of the GEF Project, MARD-FPD will serve a key implementing agency.
  - *Decree 109/2003 and Circular 18/2004 guiding the implementation of Decree 109*: This legislation underscores MONRE's responsibilities to the Ramsar Convention, the Convention on Biological Diversity and institutional coordination of the Biodiversity Action Plan and their project role as key Executing Agency.
- *Decree on Special Use Forest Organization and Management (117/2010/ND-CP).* This legislation mandates involvement of PA Management Boards in bufferzone development activities. The decree further stipulates the organization and management of PAs; PA establishment and development of PA forest master plans; buffer zone delineation and management responsibilities; the organization of environment service policies (including GHG reduction, carbon absorption); the restoration of natural ecosystems, and; notably, sustainable resource use within PAs.
- *Decision 192/2003, PA and Buffer zones.* Clarifies the administrative relationship between buffer zones and PA's based on collaboration; the regulation of benefits and management obligations of each party, etc. The Prime Minister's decision importantly requires government to 'define the specific role of PA management boards in socio-economic development in buffer zones' and to 'supplement and complete procedures and policies for development in buffer zones.'
- *Decision 186/2006/QD-TTg - Promulgating the Regulations on Forest Management.*
  Decision 186 annuls, replaces and supersedes Decision 08/2001/QD-TTg which formerly guided the permissible and non-permissible activities within PAs. The law stipulates that any activities that change the natural landscapes of forests are strictly prohibited in both the strict protection and ecological rehabilitation zones (except for ecotourism and activities related to forest regeneration activities in the rehabilitation zone).
- *Decision 126/QD-TTG: Pilot policy on benefit sharing mechanism (BSM), 02 Feb. 2012:* The Decision pilots legal BSM framework outlining the rights and responsibilities of SUF (or PA) MBs and communities based on collaborative-management principles to manage, protect and sustainably develop SUFs contributing to income generation and improvement of livelihoods for people living inside and within the buffer zone of the SUFs. This decision is being piloted within Xuan Thuy National Park (Nam Dinh Province) and Bach Ma National Park (Thua Thien Hue and Quang Nam Province).
- *Decision 29/1998/ND-CP* and *Circular 56/1999/TT-BNN-KL* allowing for the development of local regulations in forest protection and development. The decision provides some legal support for the piloting of collaborative-management approaches and the development of natural resource use agreements with local communities.

- *Decree 163/1999/ND-CP* provides directions on assigning and leasing forestland to organizations, households and individuals for stable and long-term use for forestry purposes. Article 7 of the decree allows protected area MBs to contract forestland in the Ecological Rehabilitation Zone (ERZ) to households living there for protection and re-planting.
- *Decree No. 32/2006/ND-CP* prescribes regulations on the management of endangered, precious and rare forest plants and animals; *Decree 159/2007/ND-CP* sets forth punishment regimes for CITES listed species.
- *Decision 08/2006/CT-TTg* instructs all ministries and agencies at all levels to develop inter-agency cooperative measures to address forest violations.
- *Decision 06/2007/QD-BNN* places emphasis on intelligence led efforts to improve the cost effectiveness of enforcement efforts. This Decision establishes a National FPD Forest Violations Task Force to deal with forest related crime, and particularly corruption issues.
- *Ho Chi Minh Highway protection instruction letter*. Forest cover protection along the Ho Chi Minh Highway has been given special priority by a letter issued by the Prime Minister through MARD (2002-3).
- *FLEGT and EU timber regulation*: Currently under formal (Phase 2) negotiations in Vietnam, the forest law enforcement, governance, and trade (FLEGT) action plan seeks to address the problem of illegal logging and trade in related products.
- The Budget Law, and Circulars of the Ministry of Finance regulate all PA and corridor financial matters in Vietnam.

Annex B: Current carbon stock (under 'business as usual' scenario) and projected carbon stocks (via project interventions).

I. Introduction: Deforestation and restoration in Vietnam and the Project area.

Vietnam is one of the few countries in the region to have had a significant net increase in 'forest cover' and, due in part to GoV restoration efforts and large timber imports, average deforestation rates have fallen by 18% since the late 1990's. Nevertheless, and as detailed within the PIF, regions such as the Central Annamites still have high rates of deforestation[29] in areas crucial to watershed protection and biodiversity conservation.[30]

At present, the majority of Vietnam forests are made up of 74% naturally regenerating forest and 25% of plantation forest. The remaining forests consist largely of degraded natural forests or plantations. Notably, Vietnam's intact *primary natural forest* is located in its protected areas, and was estimated to encompass only 80,000 ha. in 2010, or between 1%[31] and 2%[32] of the country's total forested area.

The annual loss of *primary forest* cover has been calculated to be approximately 1.18%/year.[33]

Per IPCC guidance on data requirements (2003b), as Vietnam is a "Tier 1" country, it is able to use area (i.e. hectares) as a proxy of the emissions to be sequestered for the purposes of national reporting. Nevertheless, the project has sought to develop more detailed to estimate CO2 sequestration via the project, through the below methodology.

II. Project PIF Carbon Stock Methodology.

In order to develop 'replicable, rapid and cost effective methods for providing evidence to support the negotiation for enhancing natural resource management,' a four-year SE Asian regional World Agroforestry Centre/GIZ grant entitled 'Trees in Multiple Use Landscapes (TULSEA)' undertook a rapid and participatory carbon stock appraisal (RaCSA) of the forests of Bach Ma National Park, Thua Thien Hue Province (2009). [34]

As based on project forest sampling, the Bach Ma National Park RaCSA estimated carbon-stock average (tonne/ha) as follows (see *table 1*, below):

Table 1. Bach Ma National Park Carbon-stock estimation

Type of land cover	Total Carbon-stock average (tonne/ha)
Bare land	33
Restoration forest	37
Poor forest	65
Medium forest	163
Rich and very rich forest	*The carbon content in a rich forest may be 2 times higher than in a medium forest, and may be up to 5 times higher than in a poor forest.*[35]

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[29] Bleaney, A., Vickers, B. and Peskett, L. 2009 What could REDD look like in Vietnam? Available at: http://redd-net.org/files/ What couldREDDlooklikeinvietnam.pdf [7 August 2011].

[30] http://www.theredddesk.org/countries/vietnam/statistics

[31] Or ca. 80,000 ha. in 2010. FAO 2010 Global Forest Resources Assessment 2010 – Vietnam Country Report. Available at: www.fao.org/docrep/013/al664E/al664e. pdf [10 February 2012]

[32] RECOFTC 2011 Vietnam's forestry reforms. http://www.recoftc.org/site/Vietnam-s- Forestry-Reforms [8 July 2011].

[33] Primary forest cover in 2005 was 85,000 ha; and in 2010, 80,000 ha.

[34] Bach Ma National Park, 'Rapid Assessment of Carbon Stock in Bach Ma National Park, Thua Thien Hue Province'. The activity was sub-contracted by the World Agroforestry Centre (ICRAF), Southeast Asia regional office, under the GTZ-719 grant in support of 'Trees in Multi-use Landscapes in Southeast Asia (TULSEA)'. 2009

[35] World Agroforestry Center. "Final Report of the TULSEA Project in Vietnam." July 2011. P. 7.

The figures outlined above are in relative accord with other global systems estimating forest carbon stocks and/or utilizing biome-average datasets (tC/ha), including those of the IPCC (2006) which place tropical seasonal forest at 105-169 t C/ha; Houghton and DeFries (2002) et al at 150 t C/ha; and Gibbs and Brown (2007) at 142 t C/ha.[36]

As the Bach Ma National Park RaCSA was undertaken within the east-west Central Annamite biodiversity corridor, and within a similar range of forest and soil types and class, it has been utilized to develop initial carbon value estimates for this Project in the PIF stage. The Bach Ma National Park RsCSA serves a field level proxy, and its estimated carbon stock values (combining above and below ground values) have been extrapolated upon to inform potential carbon stock benefits of the Project from a) avoided deforestation in PA core zones and b) for estimating CO2 sequestration values from the restoration and enhancement of carbon stocks in PA ERZ and Project SFM areas.

Additional calculations utilized within the tables below are based upon the following guidance and assumptions:[37]
- Above and below ground forest biomass combined are equivalent to forest carbon stock.
- Forest carbon stock averages (tonne/ha) can be converted to carbon content (C) by taking half of sampled forest biomass weight (i.e. carbon content=50% of biomass).
- Carbon dioxide (CO2) sequestration is derived by multiplying carbon content by 3.67.

Further, the Project assumes it will be able to achieve 'medium forest' cover (i.e. 163 t C/ha) in PA ERZ and core zones, and Project SFM areas within a 20-year period. Forest type, tree and land cover carbon rates, as well as rates of deforestation and other assumptions regarding the Project's ability to influence forest landscape changes, will be further assessed and clarified during the project preparation phase.

III. Carbon Stock restoration and enhancement

Baseline project: The ADB Biodiversity Corridors Conservation Investment Program (BCC) is targeting reforestation and enrichment planting on 10,000 ha of communal land (not covered by the GEF project or its PA focus). Utilizing the carbon stock methodology described above and assuming communal forestlands achieve a minimum of "restoration forest" (of ca. 37Ct/ha), the BCC project will sequester ca. 678,950 tCO2eq.

In addition, the East-West corridor areas (not covered by the GEF project), the WWF/CarBI project aims to restore 4,800 ha of fragmented protection and production forest. Assuming these fragmented areas achieve a minimum of "poor forest" (65Ct/ha), the CarBI project will sequester approximately 572,520 tCO2eq. This represented in the table 1 below. Combined, over a twenty year period the baseline projects potentially represent an approximate total of 1,251,470 tCO2eq.

Table: 1 Carbon Stock restoration and enhancement from baseline projects

Baseline projects	Area (ha)	Forest type	Total Carbon-stock average tonne/ha*	Carbon-stock tonnes.	Carbon**	Total C02 tonnes sequestered***
ADB Biodiversity Corridors Conservation Investment Program (BCC)	10,000	Restoration Forest	37	370,000	185,000	678,950
WWF/CarBI project	4,800	Poor Forest	65	312,000	156,000	572,520
Total	14,800			382,000	341,000	1,251,470

GEF increment: Assuming that Project efforts in most PA ERZ areas will begin work on an average of 'bare land' to 'restoration forest land' (i.e., ca. 37 C t/ha) and that within a 20 year period the Project will be able to develop at least 'medium forest,' ERZ carbon rich stocks will via the Project be restored and enhanced and will be able to achieve CO2 sequestration of an *additional* 462,420 tonnes in PA ERZ areas (i.e. with restoration and enhancement of 2000 ha. bringing CO2 sequestered to 598,210 tonnes). Please refer to *table 3*, below:

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[36] Gibbs, Holly K et al. 'Monitoring and estimating tropical forest carbon stocks: making REDD a reality'. Environment Research Letters. IOP Publishing. 2007
[37] These calculations derived from the above article, i.e. Gibbs, Holly K. et al.

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A sensitivity analysis was also undertaken, factoring an assumption that within a 20 year period the ecological restoration actions of Project may achieve carbon stock average of 20% less than the targeted 'medium forest' (ie. the would achieve a carbon stock average of 130 t/ha instead of 163 t/ha). Under this scenario, an estimated 341,310 tCO2eq would be sequestered instead of 462,420 tCO2eq. Under this scenario a longer time period would thus be needed to accrue the full project benefits.

Table 3. Carbon Stock Enhanced within 2,000 Ecological Restoration Zone (ERZ) hectares (supported with GEF funding)

Type of land cover	Total Carbon-stock average tonne/ha*	2000 ha ERZ carbon-stock tonnes.	ERZ Carbon**	ERZ C02 tonnes sequestered***
Bare-land - Restoration forest	37	74,000	37,000	135,790
Medium forest	163	326,000	163,000	598,210
			Difference	462,420
Sensitivity analysis (based on 20% reduction in targeted carbon stock levels in 20 years)	130	260,000	130,000	477,100
			Difference	341,310
			Total range estimate	341,310-462,420

* See key in footnote.

PA ERZ restoration work will also benefit biodiversity knowledge of government and staff, and enhance natural forest landscape connectivity supporting species management and action plans (component *1.2*). Direct on-the-ground investment comprises over 87% of the sub-component.

PA ERZ restoration work combined with improved management effectiveness will also benefit the biodiversity and connectivity of the PA within the biodiversity conservation corridor, and will help to contribute to avoided deforestation of the 7 PA core zones.

IV. Avoided deforestation, 7 PA Core Zones.

Within the Project's 7 focal PAs, the core zone comprises a combined total of 205,200 hectares. The PA Core (or 'strict protection zone') form generally higher quality and more intact forest areas than PA ERZ areas. In the PIF stage, we assume:
- The core zones are comprised of an average of poor-rich forest (i.e. 'medium' forest), and;
- Apply the currently known primary forest deforestation rate of 1.18%/year to the total core zone area.

Table 4. 7 PA Core Zone Forests hectares, projected degradation 2012-2031
@ deforestation rate of 1.18%/year.

A. Core zone forest loss, 10 years (ha)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Est. loss over 10 years, core zone:
Area deforested	*aseline*	2421	2392	2364	2336	2309	2281	2254	2228	2202	
Remaining forest area in core zone	205,200	202,778	200,386	198,021	195,684	193,375	191,093	188,839	186,610	184,408	**18,590 ha.**

B. Core zone forest loss, 1- 20 years (ha)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Est. loss over 20 years, core zone:
Area deforested	*Est. 2021*	2176	2150	2124	2099	2075	2050	2026	2002	1978	
Remaining forest area in core zone	184,408	182,232	80,082	177,957	175,857	173,782	171,731	169,705	167,702	165,723	**39,476 ha.**

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* Carbon tonne/ha averages applied using field level proxy developed within the Bach Ma National Park RaCSA.
** Carbon = .5 x carbon stock/tonnes
*** CO2 sequestered= carbon X 3.67

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Per *table 4* above, approximately <u>39,476 core zone hectares would be lost</u> assuming a 'business as usual' scenario, and equating to over <u>11,807,468 lost tonnes of CO2</u> over a 20 year period (see table 5, below).

A sensitivity analysis was also undertaken, factoring an assumption that within a 20 year period the project would achieve a plus or minus 10% reduction in the deforestation rates. Under this scenario, an estimated plus or minus 1,180,867 tCO2eq would be sequestered instead. Taking this into consideration, the estimated range for avoided GHG emissions is 4,722,867-7,084,600 tCO2eq.

Table 5. Avoided deforestation, 7 PA Core Zone Forests Loss of Carbon Stock, 2012-2031

With and without project situation	Area (ha)	Total Carbon-stock average tonne/ha*	Total biomass carbon stock (t C)	Total Carbon**	CO2 emissions (t CO2 eq)***
GHG emissions from deforestation in PAs (Business as Usual situation)	39,476	163	6,434,588	3,217,294	11,807,468
With project impact (assuming 50% reduction in deforestation rate/20 years) – (GEF funded only)	19,738	163	3,217,294	1,608,647	5,903,734
Sensitivity analysis (+/- 10%)	3,948	163	643,524	321,762	1,180,867
Total range estimate					4,722,867-7,084,600

Assuming the Project might be able to reduce the current deforestation rate by 50%, the project would avoid emissions of ca. 5.9 million CO2 tonnes. In addition, retained forests of ca. 185,462 ha. would continue to sequester carbon, however, these rates for forest type have not yet been assessed and will be estimated during project preparation.

V.   Carbon Stock restored and enhanced via Project SFM pilots, 19,977 hectares.

Important restoration of and enhancement of carbon stocks is also estimated in the PIF stage and within the Project SFM component. Given the GEF Project proposes to work with:
- Existing forests on 19,977 ha. land (a combination of household, communal and former state forest enterprise land);
- And currently assuming that these forests may be ranked as 'poor' and will be restored and enhanced to at least 'medium' forest under the project,

Estimated CO2 tonnes sequestered would therefore be enhanced an <u>additional 3,592,464</u> tonnes (to 4,038,515 tonnes CO2eq). (*See Table 6, below*).

A sensitivity analysis was also undertaken, factoring an assumption that within a 20 year period the ecological restoration actions of Project may achieve carbon stock average of 20% less than the targeted 'medium forest' (ie. the would achieve a carbon stock average of 130 t/ha instead of 163 t/ha). Under this scenario, an estimated 2,873,971 tCO2eq would be sequestered instead of 3,592,464 tCO2eq. Under this scenario a longer time period would thus be needed to accrue the full project benefits.

Type of land cover	Carbon-stock average tonne/ha*	SFM Carbon stock tonnes			Estimate of SFM ha Carbon**			Estimate of SFM ha CO2 tonnes sequestered***		
		Household	Communal Forest	SFE	Household	Communal Forest	SFE	Household	Communal Forest	SFE
		3,425 ha.	3,050 ha	13,502 ha	3,425 ha	3,050 ha	13,502 ha	3,425 ha	3,050 ha	13,502 ha
Poor forest	65	222,625	198,250	877,630	111,312	99,125	438,815	408,516	363,788	1,610,451
Medium forest	163	558,275	497,150	220,0826	279,137	248,575	1,100,413	1,024,434	912,270	4,038,515
Difference in tonnes CO2 sequestered (all sites)										3,592,464
Sensitivity analysis (based on 20% reduction in targeted carbon stock levels in 20 years)	130	445,250	376,500	1,755,260	222,624	188,250	877,630	817,032	727,576	3,220,902
Difference in tonnes CO2 sequestered (all sites)										2,873,971
Total range estimate										2,873,971 - 3,592,464

V. Conclusion

To reiterate, forest type and land cover carbon rates detailed above are simplified estimates, and will need to be further grounded and assessed during the project preparation phase. The stipulation applies to estimates of both Project PA and SFM forest areas, current and projected carbon stock assumptions, rates of deforestation and other hypotheses made regarding the Project's ability to influence deforestation, avoid deforestation and restore and enhance carbon stocks.

Based on current projections in the PIF stage, the project will:
- Avoid the loss of 17,764 ha to 21,712 ha of forest within protected areas, assuming that deforestation rates can be reduced over a 20 year period by 40-60%, with associated GHG emissions reductions of 4,722,867 tCO2eq to 7,084,600 tCO2eq. This assumes a plus or minus 10% achievement rate.
- Restoration and enhancement of carbon stocks of 3,215281 tCO2eq to 4,054,884 tCO2eq, based on the following:
  → 2000 ha of ecological restoration in PA restoration zones with estimated carbon sequestration over 20 years of 341,310 tCO2eq to 462,420 tCO2eq. The upper range estimate is based on an assumption that target carbon stock levels of at least 163 t/ha, while the lower range is based on an assumption of a 130 t/ha (ie. a 20% sensitivity).
  → application of SFM good practices over 19,997 ha of current "poor quality" forest lands with estimated carbon sequestration over 20 years of between 2,873,971 tCO2eq to 3,592,464 tCO2eq. The upper range estimate is based on an assumption that target carbon stock levels of at least 163 t/ha, while the lower range is based on an assumption of a 130 t/ha (ie. a 20% sensitivity).

These estimates will be confirmed through more detailed analysis during the project preparation phase, which plans to establish baseline estimates of carbon stocks at representative sites within the project area.