



PROJECT IDENTIFICATION FORM (PIF)
PROJECT TYPE: Full-sized Project
THE GEF TRUST FUND

Submission Date: 8 September 2009

PART I: PROJECT IDENTIFICATION

GEF PROJECT ID¹: PROJECT DURATION: 48 months
GEF AGENCY PROJECT ID:
COUNTRY: Panama
PROJECT TITLE: Sustainable and climate-friendly development in Veraguas Province -Proyecto Participa
GEF AGENCY: IFAD
OTHER EXECUTING PARTNER(S): National Environment Authority (ANAM); Ministry of Agricultural Development (MIDA)
GEF FOCAL AREA (S)²: Climate change
GEF-4 STRATEGIC PROGRAM(S): SP-6
NAME OF PARENT PROGRAM/UMBRELLA PROJECT:

INDICATIVE CALENDAR*	
Milestones	Expected Dates mm/dd/yyyy
Work Program (for FSP)	Nov 2009
CEO Endorsement/Approval	Oct 2010
Agency Approval Date	Nov 2010
Implementation Start	Jul 2011
Mid-term Evaluation (if planned)	Dec 2013
Project Closing Date	Jun 2015

A. PROJECT FRAMEWORK

Project Objective: The general objective of the project is to contribute to national efforts in mitigating climate change, through a reduction in greenhouse gas (GHG) emissions and through an increase in carbon sequestration. The project's specific objective is to promote sustainable rural development and environmental management in the Province of Veraguas, contributing to both poverty reduction and the improvement and conservation of natural resources (soil, water and biodiversity).

Project Components	Inv, TA, STA ^b	Expected Outcomes	Expected Outputs	Indicative GEF Financing ^a		Indicative Co-Financing ^a		Total (\$) c = a + b
				(\$ a)	%	(\$ b)	%	
Component 1: Climate change mitigation through reforestation and agroforestry	Inv	Carbon sequestration and sustainable land management promoted through reforestation, agroforestry and community-based eco-enterprises	1.1. Reforestation of at least 500ha in priority watersheds; 1.2. At least 500ha under agroforestry and conservation agriculture for soil and water management; 1.3. Appropriate community NRM plans in place to ensure maintenance of activities 1.4. At least 5 eco-enterprises established and operational.	900,000	10.92	7,343,000	89.08	8,243,000
Component 2: Capacity building for monitoring and reporting on carbon stock and changes	TA	Increase in technical capacity at the national and provincial level for the monitoring and reporting of carbon stock changes and sequestration	2.1. Training of at least 30 persons in data gathering, tools and methodologies; 2.2. Capacity improved at national and regional levels; 2.3. Awareness of local authorities and all actors increased in at least 5 project districts	450,000	12.99	3,013,000	87.01	3,463,000
8. Project management				150,000	6.68	2,094,000	93.32	2,244,000
Total project costs				1,500,000		12,450,000		13,950,000

^a List the \$ by project components. The percentage is the share of GEF and Co-financing respectively of the total amount for the component.

^b TA = Technical Assistance; STA = Scientific & Technical Analysis.

¹ Project ID number will be assigned by GEFSEC.

² Select only those focal areas from which GEF financing is requested.

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

Sources of Co-financing	Type of Co-financing	Project
Project Government Contribution	Cash	6,450,000
GEF Agency (IFAD)	Loan	5,700,000
Others (beneficiaries)	Cash	300,000
Total Co-financing		12,450,000

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

	Previous Project Preparation Amount (a) ³	Project (b)	Total c = a + b	Agency Fee
GEF financing		1,500,000	1,500,000	150,000
Co-financing		12,450,000	12,450,000	
Total		13,950,000	13,950,000	150,000

GEF RESOURCES REQUESTED BY AGENCY (IES), FOCAL AREA(S) AND COUNTRY(IES)¹

Not required

PART II: PROJECT JUSTIFICATION

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

A.1. Environmental situation in Panamá

Located in-between the Atlantic and Pacific Oceans, and with over 2000 kilometers of coastline and almost 1600 islands, the Republic of Panamá is one of the most biodiverse and geographically-varied countries in Latin America. The Isthmus of Panamá, at the intersection of Mesoamerican and Caribbean ecosystems, and located within the larger Amazon-Pacific-Darien ecosystem, has favored the evolution of numerous endemic species and life-forms, one example being the Mangroves of the Pacific Coast⁴.

Although Panamá has the highest proportion of its land designated as protected areas in America, (34% of the surface area), it is also encountering serious environmental problems, due both to the country's location and to its level of development. Problems include, amongst others: (i) contamination and degradation of the Panama Canal watershed; (ii) deforestation and unsustainable use of forest resources, with accompanying serious desertification problems in certain parts of the country; (iii) unsustainable exploitation of fisheries resources, and environmental degradation in coastal areas; and (iv) regulatory failure for the use of water and mineral resources.

Panama is faced with serious soil erosion problems. According to the National Action Programme to Combat Desertification and Drought in Panamá (PAN), severe deterioration of soils is being driven by the gradual, cumulative and increasing process of degradation occurring in almost all the watersheds, soils and watercourses of the country. Approximately 150,000 smallholder farmers depend on the cultivation of subsistence crops, on sloping land which face serious soil erosion problems. Furthermore, over 20% of the country is under ranching management.

According to the First National Communication to the United Nations Framework Convention on Climate Change (UNFCCC), submitted in 2000, the country's Land Use Change and Forestry Sector (LUCF) was responsible for at least 60% of total GHG emissions in 1994 representing 8902.5Gg CO₂ net emissions (with certain estimates suggesting a figure closer to 90%, see figure). Emissions from the LUCF derive mainly from the conversion of forests and pastures to other land uses. During the period 1990-2000, Panama experienced an annual rate of deforestation of 1.6%, one of the highest

⁴ National Environment Strategy 2008-2012

in Latin America. More the 40% of the country has been deforested, primarily due to inadequate and unsustainable development activities. As a result, almost 2 million hectares (almost one third of the country) is considered degraded land⁵.

The agricultural sector, for its part, it responsible for a relatively small proportion of GHG emissions. However, 40% of methane and 94% of nitrogen oxide emissions are derived from agriculture. Consideration of this sector is therefore required in the development of any climate change mitigation initiatives in the country.

A.2. Environmental problems in the Province of Veraguas

The province of Veraguas, with a surface area of 11,299 km², is located in the central region of the Republic of Panamá. The province is the third largest in the Isthmus, and is unique in that it has coastlines on both oceans. Veraguas' population was estimated at 223,227 people in 2005, 70% of which are found in rural areas. It is one of the poorest provinces in Panama, with almost 50% of its population considered poor (37% in extreme poverty).

The Province of Veraguas is a priority zone as identified in the National Action Programme (PAN) to the UNCCD, with serious soil erosion and desertification problems. Firstly, environmental degradation, including in watersheds, is encouraging desertification in the so-called "Arco Seco" of Panama (which borders the province of Veraguas and three others in the central region of the Isthmus), with intensive land exploitation having created a semi-arid environment. Indeed, increasingly-prolonged dry periods reduce the annual availability of surface and/or subterranean water required for various uses in the province.

Secondly, despite Veraguas being a predominantly agricultural province, it has low agro-ecological capacity for many of activities undertaken (monoculture cropping and large livestock ranches). This factor, combined with the unsustainable and inadequate use of land and soils, is causing significant erosion as well as a high volume of GHG emissions. However, the province holds significant potential to boost forestry activities.

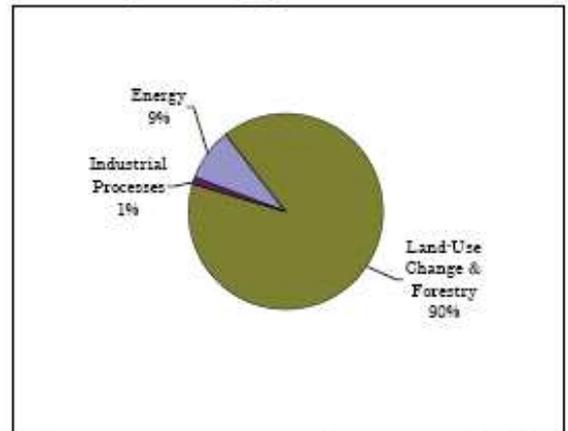
In terms of on-going development activities, IFAD has developed a programme to support the poorest rural populations in the province, responding to requests by the Government of Panama. The programme, entitled "Participative Development and Rural Modernization Project" (Proyecto Participa) is framed within the Government of Panama's policies and actions for social development and poverty reduction. The goal of the project is to contribute to the significant reduction in levels of poverty and extreme poverty in rural populations within 5 districts of the Province of Veraguas. The specific objectives of the project are to improve the environmental, social, economic and living conditions of the poor rural population, through a sustainable, participatory approach.

A.3. Issued to be addressed by the GEF Intervention

Given the serious environmental problems occurring within the province (deforestation, degradation of watersheds and soils, elevated GHG emissions, etc.), IFAD, in coordination with the National Environment Authority (ANAM), propose to complement the Proyecto Participa through *incremental activities* which will contribute to a reduction in poverty, improve environmental sustainability, and promote a reduction of GHG emissions from agriculture and LUCF activities.

Project Objectives: the goal of the project is to contribute to national efforts in mitigating climate change, through a reduction in GHG emissions and increase in carbon sequestration. The objective of the project is to promote environmentally-sustainable development in the Province of Veraguas, in order to contribute to both poverty reduction and the improvement and conservation of natural resources (soil, water, biodiversity).

Percent of GHG emissions in CO₂ equivalent, by sector (2000)



Source: World Resources Institute <http://cait.wri.org>

⁵ National Plan for Forest Development: Sustainable Forest Model (2008)

The project strategy will focus on reforestation activities (one of the primary mitigation options highlighted in the First National Communication to the UNFCCC); the adoption of agroforestry systems; and the application of agricultural and livestock techniques which combine various social, economic and environmental benefits (product diversification, increased carbon sequestration potential, reduction in GHG emissions, improved soil fertility, improved water conservation, etc.)

Components: The project will be organized around two principal axes, dedicated to: (i) the promotion of forestry, agroforestry and sustainable land management activities, and (ii) support to the monitoring, reporting and calculation of carbon sequestered and emissions reduced, accompanied with the required capacity-building and awareness-raising.

Component 1: Climate change mitigation through reforestation and agroforestry

The project will seek to develop sustainable development through environmentally-sustainable and climate-friendly use of the land. Three principal activities are proposed: (i) reforestation, (ii) agroforestry, and (iii) establishment of eco-enterprises. Regarding reforestation, the project will seek to complement the National Plan for Forest Development: Sustainable Forest Model (2008), in particular through the restoration of functioning watersheds (with multiple objectives of carbon forestry, and soil and water management). Regarding agroforestry, the project will encourage the use of agroforestry systems (that is, the use of trees and perennial species in combination with annual crops), with the objective of increasing the proportion and quantity of carbon retained in the soil; increasing the quantity of biomass conserved; improving soil fertility; and diversifying production. In addition, conservation agriculture will be promoted, which is based on the use of few external inputs (fertilizers, pesticides), low or zero tillage, and a more rational use of livestock. In order to ensure the protection and survival of the forest cover and agroforestry management, and consequently the maintenance of the carbon stock in the long term, the project will also promote a community-based approach to the sustainable management of reforested watersheds & agro forests. The third and final sub-component will promote the establishment of eco-enterprises. These eco-enterprises will profit in a sustainable fashion from the natural resources (ecological goods and services), and will contribute to poverty reduction in rural areas (e.g. located in protected areas, buffer zones, watersheds) through the use of economic instruments for environmental management. The development of these enterprises will be targeted in areas experiencing significant pressures on the natural resources; varying levels of food insecurity; and where there exists a certain level of successful experience in ecosystem restoration (particularly in watersheds). This sub-component will further contribute to capacity-building with community groups and similar organisations.

Outputs: (i) at least 500ha reforested (equivalent to an additional sequestration of 6.2 tons of carbon/hectare/year), utilizing locally-adapted tree species; (ii) 500ha under smallholder agroforestry management and/or conservation agriculture (sequestering an estimated 1.5 – 3.5 ton of carbon/hectare/year), (iii) appropriate community NRM plans put in place to ensure maintenance of activities and carbon sequestered; (iv) at least 5 community organisations (one per district) organized and aware of the importance of sustainable use of natural resources; (v) at least 5 community organisations dedicated to eco-business (i.e. community-based eco-enterprises), which generate revenues through the provision of products with an emphasis on sustainable use of natural resources; and (vi) incorporation of these eco-enterprises into the green market, through the sale of green label products.

Geographical priorities for this component are the watersheds of the Rio Santamaria and Rio San Pablo, together with other watersheds located within the project area, to be refined during project design.

Component 2: Capacity building for monitoring and reporting on carbon stock and changes

The technical capacities for the monitoring and reporting on carbon stock and changes at both the national and provincial levels will be enhanced. Capacities to be strengthened include the mapping of LUCF zones (including area inventory and remote sensing techniques), as well as the measurement of carbon sinks and flows in various land use systems. Within this component, information and data related to the changes in carbon stocks will be compiled in order to facilitate the preparation of communications to the UNFCCC. As a second sub-component, the project will pilot the use of technologies for those persons responsible for the monitoring and reporting of data for forest management, particularly regarding carbon sequestration. Possible technologies include global information systems (GIS), sequential photo series, and other digital visualization techniques. The project will also promote the collection of relevant data through the use of community, participatory monitoring techniques and local knowledge. Finally, the project will promote awareness-raising and technical capacity amongst smallholder farmers (particularly women and youth) on the themes of the environment

and climatic problems associated with agriculture and LUCF. This activity will thus complement other activities within this component, and within Component 1.

Outputs: (i) Training and capacity building of at least 30 persons at the national and provincial levels in carbon data gathering, methodologies and tools through at least 5 workshops/training sessions/seminars; (ii) systematic monitoring and measurement of carbon stocks and fluxes; (iii) awareness-raising and capacity-building activities (e.g. for participatory monitoring) for local authorities and small-holder farmers in at least 5 project districts.

Project area: The GEF project will work within the same districts of the province of Veraguas as the IFAD Proyecto Participa loan project, and may extend to other districts if deemed necessary. Certain activities (capacity building for monitoring) will have a national scope.

Institutional arrangements: The project will be executed as an integral component of the Proyecto Participa, adopting the same operational guidelines. The specific role of each agency (ANAM, MIDA, IFAD, etc.) will be defined during project formulation.

Financing: Total project costs, for a planned duration of four years, is USD \$13,95m, of which the GEF will finance USD \$1,5m. The remained, USD \$12,45m (89.25%), will be co-financing from IFAD, the Government of Panama, and beneficiaries through the Proyecto Participa associated with this project. Furthermore, the project requests funds from the GEF for the Project Preparation Grant (PPG) for a total of USD \$100,000. Sufficient co-financing for project formulation will be secured through IFAD and the Government of Panama.

A.4. Expected Global Environmental Benefits

The project is expected to generate as a minimum the following global environmental benefits:

(a) Reduction in GHG emissions and increase in carbon sequestered;

(b) Climate change adaptation and reduced vulnerability: these benefits will be obtained through activities that diversify the economy (e.g. agroforestry), and through a reduction in pressure on critical natural resources. These activities will contribute to reducing the economic vulnerability of the local population to climatic changes;

(c) Improved soil fertility and erosion control: Reforestation activities will contribute to soil formation and erosion control, and will reduce the formation and spread of sand dunes;

(d) Improved water conservation measures: Proposed activities (reforestation, agroforestry, conservation agriculture) will improve monitoring and control over watersheds and the water cycle.

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

The Government of Panama has ratified the principal multilateral environmental agreements, including the UNFCCC (1995), the UNCCD (1996) and the CBD (2002), and has prepared the required strategies and plans for implementation of the said conventions. The proposed project is also aligned and coordinated with Panama's principal national and provincial strategies and policies (both social and environmental). The principal strategies and policies include:

- *Strategic Vision for Economic Development and Employment to 2009:* The first of three pillars for the Strategic Vision is to reduce poverty and improve income distribution in Panama, and poor land management has been identified as an obstacle to achieving this. The project will address this first pillar through the adoption of sustainable land management techniques in the project target area.
- *National Strategy for the Environment 2008 – 2012:* The project has been aligned to address the priorities of this strategy, which include reducing deforestation and land degradation; and developing environmental landscape planning. A specific objective of the National Strategy is to encourage reforestation and agroforestry across Panama.

- *National Plan for Forest Development: Sustainable Forest Model (2008)*: Project activities are aligned with both the Strategic Objectives, and Strategic Actions of this Plan. Strategic Objectives include the promotion of forest land use planning and management (which includes the restoration of functioning watersheds); and the promotion of the economic valuation of ecosystem goods and services in forest resources.
- *National Action Programme against Desertification and Drought in Panama (PAN, 2004)*: Specific objectives of the PAN, to which this project is aligned include: (i) reducing degradation/loss of production land caused by soil erosion and unsustainable grazing; and (ii) increasing levels of awareness and education, in order to facilitate effective participation in all areas of Panama society.
- *First National Communication to the UNFCCC (2000)*: Project activities have been aligned with recommendations and strategic priorities of this Communication and related policies. Reforestation has been identified as a priority climate change mitigation option for Panama. According to the soil classification system employed by the Department of Agriculture, USA (USDA-SCS), approximately 75% of the surface area of Panama is suitable for forestry/agroforestry purposes. The Communication thus recommends the promotion and support to the establishment of forest plantations, where suitable. 11 of 12 districts in Veraguas Province have been identified as priority areas for reforestation activities⁶. Veraguas is also one of three most suitable provinces (together with Darien & Chiriquí) identified as having the best opportunities for carbon capture through reforestation activities⁷.

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

The project conforms closely to the GEF's Operational Strategy, together with the objectives and eligible activities under the Climate Change Focal Area. In particular, the project will support Strategic Objective 7 *bis*, "To reduce GHG emissions from land use, land use change, and forestry investments that generates mutual benefits for the global environment and local livelihoods". Expected outcomes will include global benefits from reduced GHG emissions from land use, land use change, and forestry, as well as local benefits for the communities from applying and disseminating sustainable management practises within forests and other land.

The proposal fits into Strategic Program 6, "Management of Land Use, Land-Use Change and Forestry (LULUCF) as a Means to Protect Carbon Stocks and Reduce GHG Emissions", supporting national programmes for GHG emissions reductions, through: controlling deforestation and forest degradation; reducing the creation of forest fringes caused through poor land use planning and illegal logging; and increasing carbon sequestration through reforestation. Furthermore, the project will support capacity building for the monitoring and reporting on carbon stock and changes. The project also enhances the resilience and increases the capacity of local communities within the project area to cope with the adverse impacts of climate change (adaptation). This project will also indirectly support the GEF Sustainable Forest Management (SFM) Strategic Framework.

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

Not required

E. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

This project will seek collaboration and coordination with other suitable GEF-financed projects in the country, and at the regional scale. At present, there are no other GEF projects under formulation in the climate change and land degradation focal areas in Panama, however the proposed project may seek linkages and coordinate, if appropriate, with on-going GEF regional activities, namely the *Program for the Consolidation of the Meso-American Biological Corridor*, a biodiversity focal are project currently being implemented by UNDP. A particular entry point for liaison and collaboration will be through this proposed project activities on eco-enterprises, which may take place within protected areas and/or their buffer zones, and is thus of importance for biodiversity conservation. In this regard, the proposed project may also seek linkages with the World Bank/GEF regional *EcoEnterprise Fund* project.

⁶ Autoridad Nacional del Ambiente, Panamá (2000). Primera Comunicacion Nacional Sobre Cambio Climático.

⁷ Hughes, W, Alpizar, E. & Diaz, R. Panama – Frente al Cambio Climatico. Serie Centroamericana de bosques y cambio climático. FAO, 2003.

The GEF has also financed, through UNEP, the preparation of the National Capacity Self-Assessment (NCSA) for Global Environment Management. This proposed project will co-ordinate and ensure complementarity with the project, especially regarding the capacity-building and technical assistance activities, in order to avoid duplication.

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

At the national level, the Government of Panama has made considerable advances in developing a range of policies, plans and strategies on combating land degradation and climate change. These include recognizing the importance of tackling unsustainable land management practices to overcome rural poverty in its Strategic Vision for Economic Development and Employment to 2009; and providing recommendations, policies and plans to combat land degradation and climate change through the National Plan for Forest Development; the PAN, and the 1st National Communication to the UNFCCC.

However, at the provincial level, there is a lack of on-the-ground initiatives which focus on implementing these initiatives, despite there being an urgent need to do so. In the Province of Veraguas, intensive land use and slash-and-burn practices has led to significant deforestation, with the result that natural forests now occupy only 26% of the province's surface area. Environmental problems within the province are all related, and inter-linked: erosion and land degradation due to agricultural practices on inappropriate soils (especially within the district of Canazas); loss of biodiversity due to deforestation; degradation of watersheds; and uncontrolled mining. All these processes result in high emissions of GHG (carbon dioxide, methane; nitrogen oxide) and significant soil fertility losses.

This proposed IFAD/GEF project will operate in the same target districts as that of the IFAD-financed Proyecto Participa, which acts as the baseline. The overall goal of the Proyecto Participa is to significantly reduce levels of poverty and extreme poverty of rural people, by seeking to strengthen local capacities, participation, organisation, markets and rural enterprises as a means to increase income levels in a sustainable way. Producer organisations & micro-entrepreneurs will be facilitated to assess the market potential of a selected group of products through a process of "learning by doing", and the project will promote, strengthen and modernize the economic organisations of smallholder farmers, in order to reduce transaction costs and achieve more efficient production processes and marketing

However, these initiatives do not address climate change or land degradation issues. Under the baseline, GHG will continue to be emitted through LUCF and inappropriate agricultural practices, and accompanying land degradation and soil erosion will continue to degrade the Province's watersheds and watercourses, and lead to further declines in soil fertility and agricultural productivity. As such, this proposed GEF project is incremental to the baseline, as it will promote the sequestration of GHG emissions which are currently being released through deforestation and inappropriate agricultural practices. Measures will be promoted for the sustainable use of soil, which will both increase its sequestration potential and improve its structure and fertility. This is expected to contribute to increased agricultural productivity; diversified sources of revenue; improved nutrition; and the provision of various natural resources currently unavailable.

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

RISK	LEVEL	MITIGATION STRATEGY
1. Lack of institutional support: the partner institution (ANAM) and other sections of government may inadequately support the project throughout its lifetime.	Low	The project has been requested by the government (ANAM), and includes within its proposed activities at both the national and local levels, taking into considerations priorities and recommendations within the First National Communication to the UNFCCC and the National Action Programme to the UNCCD.
2. Lack of national capacity: institutions have inadequate capacity to adequately implement project activities	Low	The partner institution, ANAM, is considered one of the most effective and capable environmental agencies within the region. With regard to mitigation activities, capacity-building activities are incorporated into the proposed project.
3. Lack of sufficient participation by smallholders in agroforestry/reforestation activities	Medium	The project will provide technical assistance together with practical demonstrations, in order to demonstrate the numerous co-benefits (economic, social, and environmental) through activities such as non-aggressive reforestation and/or through a combination of agroforestry/conservation agriculture measures.
4. Lack of project sustainability: there is a risk that a lack of adequate financing and capacity for implementing activities after the project lifetime may occur	Medium	The project will strengthen both the national and provincial institutional capacities, to ensure that technologies and the necessary knowledge for the continuation of project activities can be transferred to the relevant institutions before the end of the project lifetime
5. Impacts of climate change: According to the 1 st National Communication to the IPCC (2007), Panama is likely to experience increases in temperature and associated decreases in soil water which will lead to ecosystem changes, with semi-arid vegetation being replaced by arid-land vegetation. Moreover, Panama is likely to experience altered frequencies of extreme events. Heavy precipitation events, and areas affected by drought, are likely to increase – with major projected impacts on agriculture and forestry systems (soil erosion, land degradation, increased water stress). Project activities, such as reforestation and agroforestry, are at risk from projected climate change impacts. Lower land productivity may increase unsustainable land and forest management activities, and may compromise or dilute benefits from proposed project activities.	High	The project will mainstream measures to minimize risks associated with climate change, including through awareness-raising of beneficiaries and the careful selection of the project sites for implementation of activities – all in line with recommendations within Panama’s First National Communication to the UNFCCC, and the National Plan for Forest Development: Sustainable Forest Model (2008). Furthermore, the proposed project activities will enhance the resilience of target ecosystems to climate change. The promotion of agroforestry systems will reduce pressure on natural forests and other land use types, and create greater system resilience. Diversified production derived from agroforestry systems and other sustainable land management techniques will also contribute to reducing risk and promoting adaptation to climate change in local communities.

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

The project will be designed in order to deliver sustainable rural development, and to facilitate replicability and up-scaling of project interventions beyond the target area. Furthermore, the project design will ensure sustainability and operational impact over the long term. Lastly, the project will ensure cost-effectiveness, through the selection of the most appropriate alternatives available.

H.1: Project Approach: It is worth noting that mitigating climate change in the LUCF sector is a relatively new approach, and the available methodologies have not yet been adequately assessed. However, the Intergovernmental Panel on Climate Change (IPCC, 2007) considers that forestry and agroforestry sectors are key mitigation technologies currently available. Reforestation of abandoned agricultural lands and pastures in humid regions is estimated to sequester approximately 6.2

tons of carbon/hectare/year (over the first 20 years)⁸, and agroforestry systems are estimated to sequester 1.5 – 3.5 ton of carbon/hectare/year⁹. They also offer one of the greatest potentials for cost-effective carbon sequestration in developing countries. For example, the restoration of soils and degraded land through the adoption of sustainable land management techniques is estimated to cost approximately US \$10 tons of CO₂ equivalent/year¹⁰; and estimated costs for reforestation in the region is between US \$17 -25 tons of CO₂ equivalent¹¹. In comparison, the IPCC (2005) estimates the cost of using carbon capture and storage (CCS) technology at US \$20 – 270 tons of CO₂ equivalent/year¹². On-the-ground investments in reforestation and agroforestry in the Province of Veraguas are thus a highly cost-effective means of mitigating climate change.

At the national level, given that the LUCF is responsible for over 60% of GHG emissions, Panama's 1st National Communication to the UNFCCC identified reforestation as a preferred option for mitigation. Panama's estimated potential contribution to carbon sequestration during the period 2003 – 2012 is 80 million tons of CO₂ equivalent¹³, with the Province of Veraguas (together with Darien and Chiriquí) considered to have the greatest suitability for carbon sequestration through reforestation. Project activities focusing on capacity-building in carbon stock monitoring at the local, provincial and national levels therefore correspond to current and future needs and demand.

The project approach is also cost-effective because both agroforestry and forestry activities can secure multiple objectives (economic, social, and environmental). These activities significantly strengthen adaptation to climate change, in particular through reducing vulnerability to disasters, which is difficult to quantify in economic terms. These benefits, economic or otherwise, will significantly exceed initial investment costs of this project.

H.2. Baseline activities and project management: Baseline activities will contribute to minimizing the costs (institutional set up, monitoring and evaluation, capacity building, etc.) while maximizing the outcomes. Also, the project will be blended with the IFAD-supported Proyecto Participa, sharing the management structures and resources, under the coordination of ANAM. Joint supervision and implementation support will also contribute to cost-efficiency.

I. JUSTIFY THE COMPARATIVE ADVANTAGE OF GEF AGENCY:

I.1: IFAD's comparative advantage on climate change

IFAD is an international financial institution and a specialized United Nations agency dedicated to eradicating poverty and hunger in rural areas of developing countries. Its goal is to empower poor rural women and men in developing countries to achieve higher incomes and improved food security. In this way it will contribute to the achievement of Millennium Development Goal # 1: the eradication of extreme poverty.

IFAD's engagement on climate change stands by the premise that poor rural people should be empowered to adapt to climate change, while contributing to its mitigation in line with sustainable development goals. Its main focus is community-driven adaptation and mitigation, as well as sustainability of rural development in the long term, in a context of increased climate variability.

Based on its comparative advantage, IFAD's support to the mitigation is centred on agriculture-related priorities (agricultural production, forestry and livestock). In particular, IFAD has a strong experience in four main areas: (i) improvement of agricultural techniques and technologies; (ii) community-based natural resources management; (iii)

⁸ Silver et al. (2000) The potential for carbon sequestration through reforestation of abandoned tropical agricultural and pasture lands. *Restoration Ecology* 8: 394-407.

⁹ Montagnini, F. and Nair, P. K. R. (2004). Carbon sequestration: and underexploited environmental benefit of agroforestry systems. *Agroforestry Systems* 61, 281-295

¹⁰ Smith, P. et al (2008). Greenhouse gas mitigation in agriculture. *Philosophical Transactions of the Royal Society B: Biological Sciences* 363: 789-813.

¹¹ "A Review of Recent Studies on Cost Effectiveness of GHG Mitigation Measures in the European Agro-Forestry Sector"; F.Bosello, C.Giupponi, and A. Povellato. *Fondazione Eni Enrico Mattei* (2007)

¹² IPCC (2005). *IPCC Special Report on Carbon Dioxide Capture and Storage*. Prepared by Working Group III of the Intergovernmental Panel on Climate Change. Metz, B., Davidson, O., de Coninck, H. C., Loos, M., and Meyer, L. A. Cambridge University Press: Cambridge, UK, and New York, NY, USA.

¹³ Hughes, W, Alpizar, E. & Diaz, R. Panama – Frente al Cambio Climático. Serie Centroamericana de bosques y cambio climático. FAO, 2003. 9

livelihoods diversification to reduce risk; and (iv) risk-preparedness and coping with disaster impacts, including by managing weather-induced risk and hedging farmers against vulnerability. As agriculture has been identified as a priority sector of intervention in most National Communications to the UNFCCC, IFAD can play a key role in mainstreaming and supporting adaptation in this sector, while contributing to mitigation through better soil and land management. In this context, IFAD also plays an important role in integrating and enabling development priorities that are compatible with climate change adaptation into national policies. IFAD plans and executes agricultural projects based on local and national priorities, providing funds for their execution through loans and grants. Through these operations, IFAD provides automatically for co-financing and baseline for the interventions, satisfying the *additionality reasoning* of the GEF.

I.2: IFAD experience in Panama

IFAD has been present in Panama for 25 years, supporting rural development through various investment projects totaling approximately USD \$200 million. During this period, IFAD has gained considerable experience in the development of successful projects in marginal zones, which help the most vulnerable rural poor to overcome poverty. Certain areas in which IFAD demonstrates a comparative advantage include: (i) reducing poverty through income-generating activities, targeted in areas with higher incidences of poverty; (ii) a clear mandate to work with the poorest groups, including indigenous communities, ethnic minorities, and women; (iii) community development, with an emphasis on the management of natural resources; and (iv) establishing partnerships with key institutions at both central and local levels, and together with other national and international actors.

Included within priorities established through the IFAD's Result-based Country Strategic Opportunities Paper (COSOP) for Panama are the generation of opportunities for the poor; reducing inequalities in gender and income; the strengthening of local institutions and the empowerment of social groups. The sustainable management of natural resources is a cross-cutting component of all activities undertaken by IFAD in Panama.

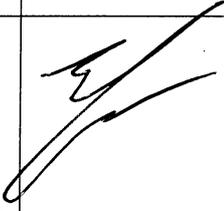
PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY (IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):
 (Please attach the country endorsement letter(s) or regional endorsement letter(s) with this template).

NAME	POSITION	MINISTRY	DATE
Ligia Castro de Doens	Minister on matters related to the Conservation of the Environment; Administrator General of National Environment Authority	National Environment Authority (ANAM)	23 June 2009

B. GEF AGENCY(IES) CERTIFICATION

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

Agency Coordinator, Agency name	Signature	Date	Project Contact Person	Telephone	Email Address
Elwyn Grainger-Jones Executive Co-ordinator Global Environment and Climate Change Unit (GECC) Programme Management Department (PMD) IFAD		7/9/09	Mr. Jesús Quintana, Program Manager GECC Unit, PMD, IFAD	(+39) 06.5459. 2210	j.quintana@ifad.org
Please do not forget to copy the IFAD/GECC Registry on official communications GECCRegistry@ifad.org					