PROJECT IDENTIFICATION FORM (PIF)[1]

PROJECT TYPE: (choose project type)
THE GEF TRUST FUND
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Date of submission: October 2007

PART I: PROJECT IDENTIFICATION

GEFSEC PROJECT ID[2]:

GEF AGENCY PROJECT ID:

COUNTRY(IES): Global

PROJECT TITLE: Carbon Benefits Project (CBP): Modeling, Measurement, and Monitoring

GEF AGENCY(IES): UNEP , World Bank

OTHER EXECUTING PARTNERS: Centro de Energia Nuclear na Agricultura – Brazil, The Chinese Academy of Sciences, CSE Senegal, Colorado State University, ISRIC – World Soil Information, KSS - Kenya, ICRAF, Michigan State University, the Macaulay Institute, WWF.

GEF FOCAL AREAS: Land Degradation (with relevance to climate change and biodiversity)

GEF-4 STRATEGIC PROGRAM(S): SFM-SP3 Sustainable Forest Management (SFM)-SP-3, LD: Forest Conservation as a Means to Protect Carbon Stocks and Avoid CO_2 Emissions"

TENTATIVE CALENDAR:

Milestones	Dates
Work Program (for Full-sized Projects)	November 2007
CEO Endorsement/Approval	March 2008
GEF Agency Approval	July 2008
Implementation Start	July 2008
Mid-term Review	July 2009
Implementation Completion	July 2010

A. PROJECT RESULTS FRAMEWORK (Expand table as necessary)

Project Objective:								
Project Components	**Indicate whether Investment or TA**	**Expected Outputs**	**Expected Outcomes**	**Indicative GEF Financing***		**Indicative Co-financing***		**Total ($)**
				($)	%	($)	%	
1. Baseline Assessment	TA	Better baseline assessment for GEF projects emphasizing carbon and GHG reduction benefits as GEB	A standardized protocol for collating the data needed to make rapid baseline assessment at start of project.	200,000	40%	300,000	60%	500,000
2. Development of Standardized and Integrated tools for Quantification and Assessment of Carbon (including C accounting) and GHG Benefits	TA	GEF Project proposals using carbon storage documentation protocol. GEF projects making sound decisions on carbon sequestration and GHG emission reduction GEBs through use of the standardized protocol. Sequestration of carbon and GHG emission reductions as a GEB enhanced	(i) Interventions Protocol will use standardized terminology for the type of intervention and biophysical and socio-economic conditions. (ii) Project start-up estimations of C Benefits over the life of the project. (iii) Detailed Long-term Future Prediction of C and GHG Benefits – derived from a	3,059,280	49%	3,176,551	51%	6,235,831

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[1] PIF submission is limited to 4 pages only.
[2] Project ID number will be assigned initially by GEFSEC.

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		in all GEF projects by use of integrated tools % of new GEF projects with carbon and GHG protocol to measure carbon and GHG impacts.	standardized set of tools that integrate modeling, remote sensing and field measurements that will increase the capacity to measure carbon and GHG impacts of GEF activities						
3. Test Cases and Capacity Building	TA	Capacities enhanced in use of the standardized protocol for measuring and quantifying sequestration of carbon as GEB.	Existing GEF projects in 4 countries, plus the Western Kenya project and a new (ISRIC) field program will work with the CBP to develop and test the protocol.	810,000	40%	1,200,000	60%		2,010,000
4. Best Practices Project Design	TA	% of new GEF projects incorporating best practices in project design	Increased capacity to strengthen carbon and socio-economic impacts of GEF activities	201,597	91%	20,892	9%		222,489
5. Web Portal Design	TA	Volume of web portal technology use by GEF agencies and project partners	Global access to carbon management tools	271,183	91%	30,346	9%		301,529
6. Management									
6.1 Management of WB led activities				241,410	29%	479,004	71%		679,004
6.2 Management of UNEP led activities				212,795	44%	290,000	56%		520,000
6. *Total Management*				*454,205*	*36%*	*769,004*	*64%*		*1,199,000*
Total project costs				*4,996,265*	*48%*	*5,496,793*	*52%*		*10,493,058*

* List the dollar amount by project components.

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

	Project Preparation	Project	Agency Fee	Total
GEF Grant		$4,996,265	$499,626	$5,495,891
Co-financing		$5,496,793		$5,496,793
Total		$10,493,058	$499,626	$10,992,684

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

Co-financing Source	Cash	In-kind	Total
Project Government Contribution		$1,000,000	$1,000,000
GEF Agency(ies)		400,000	400,000
Bilateral Aid Agency(ies)			
Multilateral Agency(ies)			
Private Sector			
NGO (WWF&ICRAF&MSU)		$1,043,793	$1,043,793
Others (Wageningen UR)	$3,053,000		$3,053,000
Total co-financing	$3,053,000	$2,443,793	$5,496,793

E. GEF RESOURCES REQUESTED BY FOCAL AREA(S), AGENCY (IES) SHARE AND COUNTRY(IES)*

GEF Agency	Focal Area	Country Name/ Global	(in $)			
			Project Preparation	Project	Fee	Total

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UNEP	BD	Global			780,250	78,025	858,275
UNEP	CC	Global			780,250	78,025	858,275
UNEP	LD	Global			780,250	78,025	858,275
World Bank	BD	Global			885,171	88,517	973,688
World Bank	CC	Global			885,172	88,517	973,688
World Bank	LD	Global			885,172	88,517	973,688
Total GEF Resources					4,996,265	499,626	5,495,891

PART II: PROJECT JUSTIFICATION

A.   STATE THE ISSUE, HOW THE PROJECT SEEKS TO SOLVE IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED: Currently, the issue faced by the GEFSec and implementing agencies, is one of natural resource management projects (at inception and during operation) claiming carbon (C) benefits as global environmental benefits (GEBs) whilst the GEF has no standardized, cost effective protocol for the quantification and assessment of C benefits. A protocol is needed that is applicable to the full range of GEF activities (e.g. all climate and land use/management variations), is standardized, comprehensible and robust.

This project will provide a cost-effective methodology that will allow users to firstly estimate and model carbon stocks and flows and, secondly, to measure, monitor and manage carbon in GEF projects across an inclusive range of land-use systems.

This project will deliver a two part methodology. The first part will estimate and model the impact of GEF projects on above and below ground carbon stocks in landscapes, under different climates and with different soil types. This component will estimate at a project's outset (ex.ante) the potential for carbon sequestration and it will allow project promoters to identify how different land management regimes will contribute to building carbon stocks throughout project implementation and into the future. These tools will be useful for scenario analysis that could contribute to improved project design. Four existing GEF projects differing in size, location, land use and remit will be used to ensure applicability to all GEF projects and to capitalise on existing GEF investment. The first component will provide a suite of modelling tools that will be available from the project website and will guide users on the application of the tools during and beyond the project's lifetime.

This component will be managed by researchers working at Colorado State University and an international consortium who have developed tools for assessment of above and below ground C stocks and stock changes for the GEF and other agencies. Although these tools operate at different scales and have differing objectives in their present implementation, they form the basis for a comprehensive assessment system for project-scale applications. The tools include:

COMET VR. http://www.cometvr.colostate.edu/ The Voluntary Report Carbon Management Tool is a web-based tool for agricultural producers, land managers and scientists in the USA to quickly assess carbon changes of past and future land use and land management systems. The system estimates ecosystem carbon changes as well as energy-related C emissions and uncertainty for the specific area under chosen land management changes.

ALU (Agriculture and Land Use GHG Inventory Software) http://www.nrel.colostate.edu/projects/ghgtool/

ALU guides the user through the process of estimating emissions and removals of GHGs for all agricultural and forestry activities. The program can estimate GHG emissions and sinks associated with biomass and soil C stocks, soil nitrous oxide, rice, enteric and manure methane emissions and nitrous oxide emissions, as well as emissions from biomass burning.

GEFSOC (The Global Environment Facility Soil Organic Carbon) Modeling System. www.nrel.colostate.edu/projects/. The GEFSOC Modeling System is the only C assessment system to be produced from developing country data that can be used to simultaneously provide estimates using a Tier 1, Tier 2 and Tier 3 methods. The system has already been used in Brazil, Jordan, Kenya and India covering a variety of scales.

Where necessary/appropriate other model and tools will also be made use of for example the ENCOFOR Land Suitability Model.

The project will further provide, through the field and laboratory components of the new ISRIC program, a global framework for: (i) establishing the equilibrium soil organic carbon levels under pre-clearing conditions; (ii) present soil organic carbon fractions under the many soil-climate- management systems; and (iii) calibration of the modeled rate of carbon accumulation under alternative management options.

The second component, (initially based on a detailed watershed study in Western Kenya and later expanded to the other GEF projects) will provide a protocol for project level measurement and monitoring C stocks in five pools (aboveground biomass, belowground biomass, soil organic matter, litter and deadwood) at any given point in a project's implementation. The measurement framework will also provide for measurement of non-CO_2 GHGs. The measurement methodology will provide estimates of net changes in stocks and non-CO_2 GHG flows allowing project promoters to establish the baseline for carbon and GHGs at the landscape level and to monitor ₃

and account for changes in carbon stocks throughout the project's lifetime. This component will build on the multiscale assessment framework developed by ICRAF under GEF funded Western Kenya Integrated Ecosystem Management Project. This method currently employs the IPCC approach. We will combine novel remote sensing techniques with the traditional field inventory measurements of the current system into a net-net GHG accounting system using the IPCC "Gain-Loss" method. The remote sensing technologies and land-based inventory methodologies will be integrated into a cost-effective, adaptable tool for use by a wide range of users in developing countries. These technologies have already been developed at Michigan State University and are ready for application in this system. The project will deliver a protocol that can be subsequently calibrated and applied for a wide range of institutional and market purposes and in an equally diverse range of landscapes. This prototype will be developed through an initial calibration at the landscape level in Western Kenya. In subsequent steps, the prototype will be tailored to other uses including applications in REDD, FCPF and other markets. Through these applications, the carbon management methodology will provide pathways for project developers and managers to increase the realization of those benefits through the stabilization/increase in carbon stocks and reduced emissions from land-use activities and land cover change. To that end, this component will:

- Develop and deploy a state-of-the-art methodology for measuring, monitoring and reporting carbon baselines and outcomes from project activities related to terrestrial ecosystems (and particularly projects supported by the GEF and its Implementing Agencies) in a reliable, standardized and comparable way;
- Construct a toolbox for evaluation of best agronomic management practices designed for project developers and managers to increase emission reductions, carbon sequestration and related ecosystem and socio-economic benefits;
- Construct a web-based portal that is accessible to a range of users, be they project developers, fund managers and international institutions to monitor and manage carbon goals.

Michigan State University will manage all remote sensing activities, ICRAF will conduct ground measurement and best practices design activities, WWF will develop the policy/institutional framework guide and will manage this project component.

Taken as an integrated approach, the project's two components will provide a unified cost-effective, adaptable suite of tools by which the GEFSec and its Implementating Agencies can project C impacts under baseline and project scenarios and accurately measure and monitor the carbon impact of its projects, estimate potential impacts under different land use management regimes. This will allow project developers and managers to prescribe land management regimes that will generate higher levels of global environmental benefits by influencing the carbon cycle.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS (Is the proposal consistent with country priorities? How does it build on ongoing programs, policies and political commitments?)
This project, rather than originating from country-specific needs and strategies, is grounded in the strategic needs of the GEF Secretariat to measure and/or estimate the carbon benefits of its projects in a reliable, standardized and comparable way in all its natural resource activities. In addition Kenya, Brazil, China and Senegal all highlight the importance of C sequestration in relation to GHG mitigation and land degradation avoidance in their national action plans.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH GEF STRATEGIES AND FIT WITH STRATEGIC PROGRAMS:
The project fits with the Land Degradation (SLM) focal area strategy and the Sustainable Forest Management (SFM) Framework of GEF-4; in particular forest conservation as a means to protect carbon stocks and avoid CO_2 emission. Specifically, the project focuses on the development of methodologies for carbon measurement and for quantifying of C benefits. As the project outcomes focus on scientific and technical analysis, field assessment and monitoring and evaluation tools for SLM and SFM, the project also complies with UNEP comparative advantage for intervention in the land degradation focal area.

Beginning with the current replenishment period, GEF is focusing attention on global environmental impact and measurable results. This involves efforts to refine focal area strategies and integrate cross-cutting themes. The overall aim is to move beyond single-project interventions towards a more programmatic approach that focuses GEF funding on clearly defined priorities and which achieves greater impact and visibility. Protecting and increasing carbon stocks while reducing greenhouse gas (GHG) emissions from land-use activities and land cover change are global environmental benefits among those clearly defined priorities – and are areas where the GEF can reasonably expect to achieve greater impact and visibility. The proposed project will provide the GEF with a comprehensive set of technologies to quantify and assess C and GHG reduction benefits that is applicable to the full range of GEF activities related to land management. While placed under the SFM, the outputs of the project will be applicable to the full range of GEF activities in natural resources and cover all land-based sinks and sources. These outputs correspond to strategic objectives and programs including Sustainable Forest Management Strategic Programs 3 and 7, Climate Change Strategic Program 6 and Biodiversity Strategic Program 5.   For example, the GEF-4 framework strategy for climate change explicitly states that a priority is to promote "development of a systematic methodology that can be used to measure carbon stocks and fluxes in land-use systems accurately and cost-effectively."

D. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES (Coordination with other GEF agencies, organizations, and stakeholders involved in related initiatives; if similar projects exist in the same country/region, including GEF projects, report on synergies/complementarity with this proposal and demonstrate that there is no duplication).

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This project will capitalize on current GEF investment use existing GEF projects (in 4 countries) for development, implementation and testing the carbon and GHG assessment protocol. This will ensure the protocol is applicable to all GEF projects, will avoid unnecessary expenditure associated with setting up new study sites and will deliver (immediately) benefits to four existing GEF activities. The following existing GEF projects (spanning a variety of climate and land use situations) will work with the CBP to develop and test the protocol:

> **Kenya**: Agricultural Productivity and Sustainable Land Management in Kenya.
> http://www.gefonline.org/projectDetails.cfm?projID=2355
> The objective of this project is to promote sustainable use of natural resources for higher productivity and incomes for the rural farmers of Kenya. Key aims are to improve the livelihoods of rural communities through improved agricultural production practices and to mitigate land degradation through the promotion of SLM. Development of the web portal and user guides will be tailored to the needs of similar groups, producing a system that can be used without training sessions.
> **China**: GEF-PRC - Partnership on Land Degradation in Dry-land Ecosystem in China.
> http://www.adb.org/projects/PRC_GEF_Partnership/
> This 10-year programme, operated through the GEF's OP12 considers land degradation in China in the context of its effects on C sequestration, biodiversity and land and water conservation. It includes four demonstration projects in different areas of northern and western China. Two of these projects will be used to help develop the CBP C benefits protocol.
> **Brazil**: BGBD – Below Ground Biodiversity. http://www.ciat.cgiar.org/tsbf_institute/csm_bgbd.htm
> This project aims to 'to enhance awareness, knowledge and understanding of BGBD important to sustainable agricultural production in tropical landscapes by the demonstration of methods for conservation and sustainable management'. It is also working towards SLM practices for BGBD conservation, and to pilot implementation of these practices at demonstration sites in 7 countries.
> **Senegal**: LADA – Land Degradation Assessment in Drylands. http://lada.virtualcentre.org/
> LADA aims to develop and implement strategies, methods and tools to assess, quantify and analyze the nature, extent, severity and impacts of land degradation on ecosystems, watersheds and river basins, and carbon storage in drylands at a range of spatial and temporal scales. It aims also to build national, regional and global assessment capacities to enable the design, planning and implementation of interventions to mitigate land degradation and establish sustainable land use and management practices.

The remote sensing tools included in the Carbon Measurement and Monitoring Component has been made possible with sustained technical collaboration with the world's most advanced researchers and institutes dedicated to improving remote sensing technologies and global application systems. Those institutes and applied agencies include the United Nations Global Terrestrial Observing System, USAID's Famine Early Warning System and NASA's Land-Use and Land-Cover Change Program, Australia's Commonwealth Scientific and Industiral Research Organization (CSIRO) and the Australian National University (ANU). Development of earth observation technologies has been accompanied by direct collaboration with advanced ground measurement applications including with Cornell UniversityBook Chapter with UNEP, Earth Institute of Columbia University, cooperation with ENCOFOR in association with the Joanneum Research Institute, Fundación Centro Técnico Forestal (CETEFOR) Bolivia and Intercooperation, Switzerland. FACE Foundation in the Netherlands and Belgium. In addition, the measurement and monitoring component will build on the multi-scale assessment framework developed by ICRAF under the GEF funded Western Kenya Integrated Ecosystem Management Project. This method currently employs the IPCC 'Stock Difference' approach, converting to the gain-loss method will allow for greater automation and a more user friendly system.

These institutes and research centers provide access to the most advanced modeling, earth observation and ground measurement technologies. Collaboration between these institutes and the project components will ensure a mutually reinforcing technical development and supportive applications in project sites.

Carbon and greenhouse gas modeling and assessment technology that will provide the basis for further development in this project stems, from and will capitalize on, earlier GEF co-financed work carried out by leading researchers at Colorado State University, Rothamsted Research, the Hadley Centre for Climate Research, the International Soils Research and Information Centre (ISRIC), IRD and regional-level soil C assessments carried out in collaboration with Brazil (CENA), Jordan (BRDC), India (NBSS&LUP) and Kenya (KSS). Related research from these groups, including national GHG inventory methods employed in the US and UK, farm-level GHG assessment models being used by USDA and greenhouse gas assessment models developed and applied in central America in collaboration with local governmental and research agencies, USEPA and USAID, will also feed into the technologies proposed for development in this project.

E. **DESCRIBE THE INCREMENTAL REASONING OF THE PROJECT**(What would happen without GEF support and what would be the expected change in global environmental benefits

The *baseline scenario* (without GEF support) is one in which natural resource interventions continue to claim C benefits as a GEB but agencies are unable to quantify or report this in a standardized or reliable way. The *alternative scenario* (with GEF support) is one where project managers, land use planners and community scientists can monitor, compare and report C benefits for natural resource interventions in a standardized comparable way. At an initial level, the project will not actually deliver additional GEBs, but it will enable their articulation and the justification of GEF investments to Council and the donors. At an intermediate timescale, the project

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will deliver further prioritization of C sequestration in future projects - and hence a greater emphasis on delivery of GEBs. It is also anticipated that this greater emphasis and quantification will leverage further donor funds towards delivery of GEBs.

In addition to providing a carbon accounting system for the GEF and its Implementing Agencies, the project will provide an advanced modeling capability to estimate project carbon stocks, future stock changes and GHG emissions from project land-use activities. Those contributions will allow local promoters to deliver carbon market benefits to smallholders in vulnerable developing countries while promoting adaptation to changing climatic conditions.

These incremental benefits will be reflected in the delivery of the following outputs:

- Standardized protocols for data collection to supply models of above and below ground carbon stock changes and GHG emissions under all project types within the GEF portfolio.
- a unified measurement protocol to account for the carbon stocks and other GHG emissions for small (landscape level) to large (regional level) projects
- an integrated system employing remote sensing and C and GHG modles to estimate 1) project baselines of C stocks and change and GHG emissions for alternative management strategies for project planning and development, 3) estimate C stocks and GHG emissions during the lifetime of the project
- implementation of the remote sensing and model based C and GHG assessmnet system for exsiting GEF projects in 4 countries
    - Implementation and testing of ground measurements using newly developed measurement protocols as a protoype site in Western Kenya
- community participation and integration methods that allow local communities to work in partnership with project developers to design and implement ground-based measurement and monitoring systems, and to adopt agronomic, agroforestry, forestry and land use best practice;
- tools to demonstarte co-benefits of C and GHG mitigation management strategies in terms of socioeconomics and other environemntal metrics
- a web-based portal to enable users to assess, manage and report on performance of projects with carbon goals and components.

F. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED. OUTLINE THE RISK MANAGEMENT MEASURES, INCLUDING IMPROVING RESILIENCE TO CLIMATE CHANGE, THAT THE PROJECT PROPOSES TO UNDERTAKE.

Risk 1. Integration of the two project components (previously separate proposals) into a mutually supporting carbon modeling, measurement, monitoring and management protocol proves problematic. *Mitigation 1.* A single project steering committee will ensure the two components are inter-dependant for example protocols and ground measurement data of C stocks and GHG fluxes will provide the data sets needed for the initialization and verification of the remote sensing and C/GHG modeling tools and outputs from the C/GHG modeling tools will provide content for the web based information portal .In addition there will be a common design document for the development of the integrated remote sensing and model based estimation tool. During the PPG a structure for coordination of research activities to ensure immediate and comprehensive integration will be established.

Risk 2. Outputs of the project prove too costly or sophisticated for application in least developed countries. *Mitigation 2.* The project will take advantage of the fact that costs of technological and technical innovations (e.g. cost of remote imagery) associated with the project are declining and as costs decline the resolution and accuracy of measurement and modeling systems can be increased. The project will also introduce a series of technical improvements in both the earth observation and ground-based technologies. Secondly in the modeling component, previous experience in developing advanced computer based estimation tools that were successfully implemented by scientists in Asia, Africa and Latin America in diverse ecological and climatic conditions provide strong guarantees of the project's rapid application and subsequent replication in developing countries.

Risk 3. A protocol for measuring, monitoring and modeling C benefits is not produced rapidly enough for GEF needs. *Mitigation 3.* Tried and tested tools, already available will be adapted and enhanced to form the core of the protocol for measuring C benefits. In this way rapid development will be ensured and previous GEF investment in C modeling systems capitalized upon. In addition, existing GEF projects that are already up and running will be used as test cases for the development and implementation of the protocol. Time needed to set up test case sites will, therefore, be avoided. At project's termination, the deliverables will be ready for immediate adaptation in subsequent institutional and market applications.

G. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT (e.g. $/tons of CO_2 abated). **IF COST EFFECTIVENESS IS NOT PRESENTED, OUTLINE THE STEPS THAT PROJECT PREPARATION WOULD UNDERTAKE TO PRESENT COST-EFFECTIVENESS AT CEO ENDORSEMENT:**

The project will be highly cost effective as it capitalizes on a previous GEF project (the GEFSOC Project) and other existing tools for C modelling and assessment. In addition, by using existing GEF activities in 4 different countries the project will save substantial costs that would have been required to set up and run new activities involving natural resource interventions. Cost effectiveness is also facilitated through the use of state-of-the-art technologies, the use of technologies for which costs are rapidly declining (e.g., remote sensing).

H. GEF AGENCY COMPARATIVE ADVANTAGE (leave blank if GEF Agency is within the comparative advantage matrix) The project is submitted under two implementing agencies, UNEP and the World Bank. As the project focuses on development and testing of methodologies and tools, and development of scientific and technical analysis (STA), the project complies with UNEP's comparative 6

project partners have reviewed anticipated challenges and identified specific steps that will facilitate harmonization of the various components. While some technical adjustments will be inevitable, we foresee no major impediments to delivering the project outputs in the indicated 18-month period.

3. Carbon benefits: What if the anticipated carbon benefits do not materialize?

The risk associated with this project is that if only the carbon measurement aspects are addressed, leaving aside the monitoring and management functions, it will be more difficult to realize the carbon and association additional benefits over time. To this end, the socio-economic and policy/institutional components will ensure that GEF land use projects will increase carbon stocks over time and, as such, becomes critical to promoting adaptation to climate change.

G. **DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT** (e.g. $/tons of CO_2 abated). **IF COST EFFECTIVENESS IS NOT PRESENTED, OUTLINE THE STEPS THAT PROJECT PREPARATION WOULD UNDERTAKE TO PRESENT COST-EFFECTIVENESS AT CEO ENDORSEMENT:**

Cost effectiveness of the project is facilitated through the use of state-of-the-art technologies, the use of technologies for which costs are rapidly declining (e.g., remote sensing), and the substitution of remote technologies and modeling for intensive (and expensive) ground measurement. Moreover, project partners are as, if not more, experienced in direct application of these technologies as any other institute or research center.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINTS AND GEF AGENCIES

A. **GEF AGENCY COMPARATIVE ADVANTAGE** (leave blank if GEF Agency is within the comparative advantage matrix)

The strengths and comparative advantage of the World Bank will enhance project outcomes in many ways. Foremost, the Bank's ability to use its investment instruments to address multiple environmental and social issues will ensure direct relevance and positive outcomes on the ground. Given that this project promotes an integrated carbon management system, it requires grounding in agricultural production systems that will deliver sustained environmental and social benefits to smallhold producers in developing countries. The Bank's agriculture economic and sector work in scores of developing countries, for example, in Africa through the TerrAfrica program and in Latin America through silvo-pastoral projects, provides the solid platform for promoting this endeavor. Moreover, the Bank's capacity to stimulate markets for environemtal public goods through PES schemes and carbon markets, notably through the BioCarbon Fund and the Forest Carbon Partnership Facility, provide a technical and financial competence that will significantly strengthen the replicability and market viability of the project.
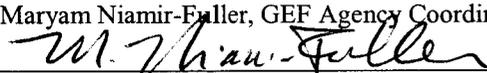
C. **GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation.	
Steve Gorman GEF Agency Coordinator	Sam Wedderburn Project Contact Person
Date: *September 7, 2007*	Tel. and Email: 202 473 0443 swedderburn@worldbank.org

advantage in the GEF, especially for interventions in the land degradation (SLM) focal area and the Sustainable Forest Management Programme (SFM). The World Bank's ability to use its investment instruments to address multiple environmental and social issues will ensure positive outcomes on the ground. Given that this project promotes an integrated carbon management system, it requires grounding in agricultural production systems that will deliver sustained environmental and social benefits to smallholder producers in developing countries. The Bank's agricultural and economic sectors provide a solid platform for promoting this endeavor. Moreover, the Bank's has capacity to stimulate markets for environemtal public goods through PES schemes and carbon markets (e.g. BioCarbon Fund and the Forest Carbon Partnership Facility).

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINTS AND GEF AGENCIES

A. 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.	
Name & Signature Maryam Niamir-Fuller, GEF Agency Coordinator	Mohamed Sessay Project Contact Person
Date: *(Month, Day, Year)* 3rd Oct '07	Tel. and Email: 254-20-7624294, Mohamed.sessay@unep.org
Name & Signature Steve Gorman, GEF Agency Coordinator	Sam Wedderburn Project Contact Person
Date: *(Month, Day, Year)*	Tel. and Email: 202-473-0443, swedderburn@worldbank.org

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