



# PROJECT IDENTIFICATION FORM (PIF)<sup>1</sup>

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

## PART I: PROJECT IDENTIFICATION

Project Title:	Watershed Approach to Sustainable Coffee Production in Burundi		
Country(ies):	Burundi	GEF Project ID: <sup>2</sup>	4631
GEF Agency(ies):	WB (select) (select)	GEF Agency Project ID:	P127258
Other Executing Partner(s):	The Ministry of Water, Environment, Land Management, and Urbanization	Submission Date:	2011-09-21
GEF Focal Area (s):	Multi-focal Areas	Project Duration (Months)	48
Name of parent program (if applicable): ➤ For SFM/REDD+ <input checked="" type="checkbox"/>		Agency Fee (\$):	420,000

### A. FOCAL AREA STRATEGY FRAMEWORK<sup>3</sup>:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
(select) LD-1	Outcome 1.2: Improved agricultural management	Output 1.2: Types of innovative SL/WM practices introduced at field level	GEFTF	1,000,000	3,000,000
(select) LD-1	Outcome 1.3 Sustained flow of services in agroecosystems	Output 1.3 Suitable SL/WM interventions to increase vegetative cover in agro-ecosystems	GEFTF	1,000,000	2,600,000
(select) BD-1	Outcome 2.1: Improved management effectiveness of existing and new protected areas	Output 2.1: New protected areas (number) and coverage (hectares) of unprotected ecosystems	GEFTF	700,000	6,000,000
(select) BD-2	Outcome 3.1: Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation	Output 3.1: Policies and regulatory frameworks (number) for production sector	GEFTF	300,000	7,000,000
(select) SFM/REDD-1	Outcome 4.1: Good management practices applied in existing forests	Output 4.1: Forest area (hectares) under sustainable management, separated by forest type	GEFTF	1,000,000	2,200,000
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)	Others		(select)		
Sub-Total				4,000,000	20,800,000
Project Management Cost <sup>4</sup>			(select)	<b>200,000</b>	700,000
<b>Total Project Cost</b>				<b>4,200,000</b>	<b>21,500,000</b>

<sup>1</sup> It is very important to consult the PIF preparation guidelines when completing this template.

<sup>2</sup> Project ID number will be assigned by GEFSEC.

<sup>3</sup> Refer to the reference attached on the [Focal Area Results Framework](#) when filling up the table in item A.

<sup>4</sup> GEF will finance management cost that is solely linked to GEF financing of the project.

**B. PROJECT FRAMEWORK**

<b>Project Objective: Expanding Sustainable Land and Water Management in coffee landscapes.</b>						
<b>Project Component</b>	<b>Grant Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Indicative Grant Amount (\$)</b>	<b>Indicative Cofinancing (\$)</b>
1. Biodiversity friendly sustainable coffee production in priority watershed	Inv	<p>Outcome 1.1: Improved ecosystems service production in coffee landscapes. (GEF)</p> <p>Outcome 1.2: Biodiversity and SFM conservation integrated into coffee landscapes management. (GEF)</p>	<p>Program on shade-grown coffee and integrated pest management implemented (GEF)</p> <p>Regulations making mandatory the preparation of municipal land-use plans prepared (GEF)</p> <p>Payment for environmental services program introduced in forest lands (GEF)</p> <p>Management plan for new Protected Areas completed and implementation started (in priority wetlands)(GEF)</p> <p>2,000ha of marshland irrigation rehabilitated (IDA)</p> <p>8,000 ha under SLM by year 5 in target subcatchments (IDA)</p> <p>Average yield of coffee increased (IDA)</p> <p>Improved score in GEF 5 focal area tracking tools (BD, LD, SFM (GEF)</p>	GEFTF	2,500,000	10,000,000
2. Sustainable coffee processing and watershed management	Inv	<p>Outcome 2. 1: Integrated approach to soil fertility and water management implemented in coffee production and processing</p>	<p>Environmentally sound criteria, standards, and regulations for the CWSs issued by the Ministry of Environment, in accordance with the East Africa Community and buyer countries</p> <p>Pilots about the potential for harvesting rain water and recycling water economically in the CWSs developed</p> <p>Training program on water,</p>	GEFTF	1,000,000	10,000,000

			<p>irrigation and solid waste management (coffee cherries) in CWS developed</p> <p>Capacity building program developed to enhance enforcement and monitoring of environmental and social standards</p> <p>Adoption by Burundi of water and fisheries policy (IDA)</p> <p>Reduced environmental pollution coming from coffee washing station. (IDA)</p>			
3. Biodiversity Friendly and Sustainable coffee marketing and certification along coffee value chain	TA	Outcome 3.1. Increase in the percentage of Burundi coffee exported for specialty markets (shade grown, organic, fair trade, etc)	<p>Sustainable coffee certification program developed, i.e. organic , fair trade, biodiversity friendly, certification d'origine (GEF)</p> <p>Market study for the potential of coffee to access niche markets and diversification strategies completed (GEF)</p> <p>Capacity-building program for coffee cooperatives and private sector completed (GEF)</p> <p>100 km of feeder roads rehabilitated (IDA)</p>	GEFTF	500,000	800,000
	(select)	s		(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
			Sub-Total		4,000,000	20,800,000
			Project Management Cost <sup>5</sup>	(select)	200,000	700,000
			<b>Total Project Costs</b>		<b>4,200,000</b>	<b>21,500,000</b>

<sup>5</sup> Same as footnote #3.

**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	World Bank - IDA - Lake Victoria Environmental Management Project II APL 2 (Burundi)	Grant	10,000,000
GEF Agency	World Bank - IDA - Agro-Pastoral Productivity and Markets Development Project	Grant	10,000,000
GEF Agency	TerrAfrica SLWM activities	Grant	200,000
Local Government	Ministry of Environment	In-kind	500,000
Private Sector	Intercafé	In-kind	500,000
Others	Communities	In-kind	300,000
(select)		(select)	
<b>Total Cofinancing</b>			<b>21,500,000</b>

**D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (a)	Agency Fee (b) <sup>2</sup>	Total c=a+b
WB	GEF TF	Biodiversity	Burundi	1,000,000	100,000	1,100,000
WB	GEF TF	Land Degradation	Burundi	2,200,000	220,000	2,420,000
WB	GEF TF	Multi-focal Areas	Burundi	1,000,000	100,000	1,100,000
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
<b>Total Grant Resources</b>				<b>4,200,000</b>	<b>420,000</b>	<b>4,620,000</b>

<sup>1</sup> 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

<sup>2</sup> 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](#) strategies:

The project will be developed using a multi-focal area strategy to help ensure good integrated ecosystem management approaches. These can help secure a robust mix of primary and secondary ecosystem services from the landscape mosaic while adapting to climate change and variability.

Land Degradation. The project is aligned with the GEF-5 strategic objectives for the Land Degradation focal area, specifically with objective LD-1 (“Improved agricultural management”). The project will address the pressures from competing uses on important watersheds. It will focus in the upper watershed on investments and capacity development to improve decision-making in coffee landscapes. This will ensure the maintenance of ecosystem services that are important both for the global environment and peoples’ livelihoods, complemented with specific investments in critical wetlands in the lower watersheds.

Biodiversity. The proposed project is in line with the GEF-5 strategic objectives for the Biodiversity focal area. The project aligns primarily with the GEF objective BD-1 (“Improved management effectiveness of existing and new protected areas”). The project will support activities to help reduce the negative impacts of human activities (e.g. agriculture and resource extraction or, more specifically, coffee production and processing) on wetland biodiversity, taking into account the contribution of all components of biodiversity to ecosystems functioning, economic development and human well-being. The project will also strengthen the capacity of the public sector to manage and regulate ecosystems services following a watershed integrated approach in productive landscapes and wetlands. This will be done by strengthening policy and regulatory frameworks, removing critical knowledge barriers, and developing institutional capacities.

Sustainable Forest Management. The project will aim at reducing pressures on forest resources and generating sustainable flows of ecosystems services (SFM/REDD+ - 1). The Program will be implemented following the landscape approach (promoted through the SFM strategy) which integrates people's livelihood objectives in the management of the different ecosystems within the forested landscape.

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

A.2. National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

The Government of Burundi (GoB) has developed strategies and plans for several international conventions. To name the most relevant ones, the GoB submitted its National Biodiversity Strategy and Action Plan (NBSAP) in 2000 and a progress report in 2009; its *National Action Plan for Adaptation to Climate Change* (NAPA) in 2007; its *Second National Communication to the UNFCCC* in 2010, and finally its *National Action Program (NAP) to Fight Desertification* in 2005. It has also recently validated these four documents: *Investment and Financing Strategy of the National Plan on the Fight Against Land Degradation*; *National Plan for Investment in Agriculture* (PNIA) 2012 - 2017; *Sub-Sector Strategy on Marshland Development and Watershed Protection*; and *Study on the Cost of Inaction Against Land Degradation in Burundi*. All these documents identify sustainable land management,

including rehabilitation of degraded areas and protection of critical ecosystems, including wetlands and buffer zones around lakes, as key priorities.

Sustainable land and water management, including the rational development of wetlands and the protection of the country's biological heritage are also key elements of Burundi's National Environmental Strategy.

Achieving equitable and sustainable growth is one of the strategic objectives included in Burundi's Poverty Reduction Strategy Paper (PRSP). In order to consolidate the necessary link between environmental protection and development, the government strategy is based on the following themes: (i) upgrade institutional, technical, and financial capacities; (ii) promote the national policy on natural resources management; (iii) promote the sustainable use of natural resources, including the protection of threatened natural resources.

Burundi is currently preparing a sub-sectoral strategy for wetland management and protection of watersheds in the agricultural sector (*Strategie Sous Sectorielle d'Aménagement des Marais et de la Protection des Basins Versants*), which focuses in increasing agricultural productivity in by means of increasing output per ha and improving water management in wetlands. This strategy also recognizes the need to ensure the protection of certain highly biodiverse and fragile wetlands.

The Regional Transboundary Diagnostic Analysis (RTDA) and the Strategic Action Plan (SAP) for the Lake Victoria Basin (LVB), commissioned by the EAC in 2007 as part of LVEMP II preparation process, specifically identified wetland destruction, degradation of river banks, biodiversity loss, land degradation, soil erosion and mining as some of the main environmental threats originating from Burundi that contribute to the degradation of water and fisheries resources in the LVB.

## **B. PROJECT OVERVIEW:**

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

The project will work in the Watershed that are part of the Lake Victoria Basin. The upper watershed main land use is coffee production, while the lower watershed includes some of the most significant wetlands of Burundi.

#### **Background**

Land degradation and poor land management in the Lake Victoria Basin are major challenges that are impacting negatively on community livelihoods and cut across issues of poverty, health, the environment and economic growth. Although land degradation is recognized as a major development issue, sustainable land and water management (SLWM) has not received the desired attention in the development agenda of the Basin due to the existence of several critical barriers. The Basin farming systems are dominated by crop agriculture. The expansions and new settlements are targeting very fragile ecosystems (forests, wetlands, steep hills, river banks, shorelines, etc).

The Kagera River Basin, shared by Rwanda and Burundi, contributes about 25 percent of the total discharge coming from rivers into Lake Victoria, representing 30 percent of total inflow into the Lake. As a result of the unsustainable land use, the Kagera River also brings into Lake Victoria sediments rich in nutrients resulting from massive soil erosion; and an equivalent of 2 hectares coverage of water hyacinth per day. The Kagera River Basin supports the livelihoods of about 16.5 million people, the majority of whom are rural, directly dependent on subsistence

farming, herding, and fishing activities. Most of these people are unable to invest in improved land and water resources management. Moreover, refugee movements in recent decades have further increased pressures on natural resources in the Basin, leading to conflicts among various interest groups and across LVB countries.

Burundi's wetland network is estimated to occupy 120,000 ha. The extensive wetland areas in the basins of Ruvubu, Akanyaru and higher Akagera rivers are under intense population pressure for conversion into agricultural lands, grazing in the dry season, or extraction of materials for construction, with some of them being dominated by invasive species. It is estimated that, in 1979, 35% of the wetlands had been converted for agriculture, a percentage that had reached 70% by the year 2000. The anarchic exploitation of wetlands/marshlands has caused disruptions in the hydrological balance, biodiversity loss and impoverishment of soils and hampered other ecosystems functions such as flood regulation. Biodiversity is also at risk in the northern lakes of the high Bugesera region, where coastal encroachment has led to destruction of important habitats for migratory birds and for reproduction of native fish, the latter also affected by the introduction of exotic species.

Coffee growing is one of the most important productive activities in Burundi. Coffee, mainly of the Arabica variety, is the country's primary export crop, accounting for more than 60 percent of all of Burundi's export earnings, depending on the year.

There are two types of coffee processing in Burundi: *washed* and *fully washed*. The vast majority of Burundi's coffee is fully washed, evidenced by the extensive presence of coffee washing stations (CWSs), most built in the 1980s.

Prior to the onset of reform, coffee cherry prices were set each year by the government. The cherries were typically blended with others of the same grade based on physical characteristics and not on the basis of quality. Without incentives to participate in specialty markets and no traceability of the coffee, Burundi's producers and CWS owners had little interest in improving quality or obtaining certifications for specialty coffee.

Besides these changes, the reform created two new organizations: the *Autorité de Régulation de la Filière Café* (ARFIC) is a public enterprise whose mission is to represent the Burundi government in the coffee sector. The second organization, InterCafé, is an autonomous organization of professionals that guide the development strategy for the value chain.

### *Environmental Issues*

Several environmental and socioeconomic issues have occurred in the coffee sector in each of the phases of production, processing, and marketing. However, if well managed, the coffee sector could end up generating positive socioeconomic and environmental impacts.

In the *production phase*, farmers have expanded the areas under coffee cultivation and have used marginal lands on steep slopes for other annual crops. This caused soil erosion in high rainfall areas and deposition on fertile lowlands in the absence of protective measures. The elimination of shade cover for increased coffee production has also had significant impacts on various soil quality parameters, including topsoil erosion, leading to land degradation. Land degradation due to unsustainable coffee production practices is causing biodiversity loss, forests loss and expansion of the agriculture frontier into the country's protected areas.

In the coffee *processing phase*, there are several environmental issues that affect the Lake Victoria Basin watershed, such as water pollution from processing in the CWSs and increased

solid wastes due to increased coffee processing.

Finally, a successful *marketing phase* that tries to place Burundi in specialty markets for organic, biodiversity friendly, or certification of origin, can lead to better natural resources management and more income for farmers.

Burundi is affected by climate variability and climate change as described in the NAPA. The vulnerability of rural communities can be reduced by adjusting production practices and implementing activities such as: capacity building to implement climate risk management responses, developing climate change vulnerability maps, incorporating climate parameters into civil works planning and design, agricultural measures to promote food security, insurance schemes to reduce climate induced damages as well as priority technical measures such as introducing heat-resistant plant varieties, improving small-scale climate-resilient irrigation techniques, improvement of food and seed storage capacities and developing livestock feed, among others.

### **Baseline project**

There are two baseline projects that work in the same watershed as the GEF Alternative with complementary activities: Lake Victoria Environmental Management Project II (LVEMP II) and Agro-Pastoral Productivity and Markets Development Project (PRODEMA)

The Lake Victoria Environmental Management Project II (LVEMP II) is a regional \$30 M IDA project aiming to address the socio-environmental impacts of environmental degradation in the Lake Victoria Basin. More specifically, it seeks to (i) improve the collaborative management of the transboundary natural resources of the LVB for the shared benefits of the five EAC Partner States; and (ii) reduce environmental stress in targeted pollution hotspots and selected degraded sub-catchments to improve the livelihoods of communities who depend on the natural resources of the LVB. The total funds for Burundi are \$ 15 M. The baseline activities considered as co-financing of the GEF increment are \$ 10 M.

The baseline activities to the GEF increment are:

**Component 1: Strengthening institutional capacity for managing shared water and fisheries resources.** This component focuses on building the capacity and increasing the effectiveness of the existing national institutions to manage the water and fisheries resources in the Kagera River Basin, and improve the cooperative management of shared transboundary natural resources of the Lake Victoria Basin. The Kagera basin and the bigger Lake Victoria Basin are the same geographical areas for the IDA and the GEF project.

Total value of the component \$ 3.5 M (of which \$ 1 M considered as baseline co-financing)

Main Output: Adoption by Burundi of water and fisheries policy.

**Component 2: Point source pollution control and prevention.** The main objective of this component is to reduce environmental stresses from point source pollution, especially municipal wastewaters, on the rivers, wetlands, and lakes in the LVB portion of Burundi. The main point source pollution in Burundi is related to coffee washing station.

Total value of the component \$ 7.5 M (of which \$ 2.0 M considered as baseline co-financing)

Main output: Reduced environmental pollution coming from coffee washing station.

**Component 3: Watershed management.** This component seeks to reduce environmental stresses in the LVB through integrated watershed management, including the rehabilitation of degraded wetlands and river banks, and the adoption of on-farm soil and water conservation programs on the hillsides. There will be three sub-components: (i) Restoration of wetlands and riparian vegetation; (ii) Rehabilitation of hillside areas for production and conservation; and (iii) Community driven development for livelihoods improvement.

The work under this component complements geographically the work done by GEF increment since the baseline project will work with the communities that are part of the LVB, and the GEF increment will work with the coffee farmers communities in the Kagera river Basin with the other half to do Sustainable Land Management Practices such as: grass-strip, agro-forestry, intercropping, soil bunds, terraces, protection of water springs, etc.

Main Output: 8,000 ha under SLM by year 5 in target subcatchments

Total value of the component \$ 13.4M (of which \$ 6 M considered as baseline co-financing)

**Component 4: Project coordination and management.** This component will provide resources necessary for effective Project coordination, regional and national levels communication and capacity building, monitoring and evaluation activities, and sharing of information among countries. The baseline project and the GEF increment, will share the same PIU in the Minister of Environment finances by the IDA grant.

Total value of the component \$ 5.5M (of which \$ 1 M considered as baseline co-financing)

The baseline Burundi Agro-Pastoral Productivity and Markets Development Project (PRODEMA) is \$ 43 M IDA Credit (of which only \$ 10 M are considered co-financing baseline for the GEF increment), that seeks to increase small producers' productivity and market access for targeted commodities, coffee being one of the priority ones, in the project area. To achieve this objective, the project will: (i) support agricultural technology transfer in targeted value chains and rehabilitate irrigation infrastructure to increase productivity, and (ii) strengthen the capacities of producers and their partners to link to the market by improving post-harvest infrastructure, market intelligence, and feeder roads. These baseline activities complement the GEF increment since they work along the value chain, and focus on infrastructure, that will not lead to Global Environment Benefits (GEF), while the GEF increment will focus on the needed investment on the land (agriculture land, wetlands, and around washing stations) to generate GEB.

The baseline PRODEMA IDA project includes three components:

**Component 1: Support to agricultural productivity and access to markets.** This component will provide matching grants to improve productivity of agricultural investments and access to markets of targeted commodities. These investments will be at the production, post-harvest collection, storage, transformation, processing, and marketing stages in the targeted value chains, including coffee and will focus on hard infrastructure to increase productivity

Total value of the component is \$ 30.08 M (of which \$ 7 M considered as baseline co-financing)

Main output: Average yield of coffee (t cherries/ha increased from 0.4 to 0.8 by end project; and percentage of coffee marketed directly by producers increased from 10% to 30% by end of the project

**Component 2: Irrigation development and feeder road rehabilitation.** This component will

finance the rehabilitation/development of: (i) marshland irrigation; (ii) protection and conservation of watersheds adjacent to the irrigation schemes; and (iii) tracks within marshlands and rural roads linking marshlands to the communal road network. It will also support the establishment and capacity building of water user associations to manage and maintain the irrigation systems and the preparation and implementation of management and maintenance programs for the irrigation systems. This component is expected to facilitate producers' access to markets for the main commodities, including coffee.

Total value of the component is \$ 9.5 M (of which \$ 3 M considered as baseline co-financing)

Main output: 100 km of feeder roads rehabilitated and 2,000ha of marshland irrigation rehabilitated

**Component 3: Management and coordination of project activities** This component will finance the coordination, planning, management, monitoring and evaluation, audits, and other operating costs of the Project Coordination Unit (PCU) and other activities necessary for project coordination and management.

Total value of the component is \$ 5.5 M ( this baseline is not considered as direct co-financing of the GEF increment since the project implementation unit is with the Minister of Agriculture and not with Minister of Environment, that will be executing the GEF in collaboration with Intercafe)

- 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:

#### **Issues/Gaps to be addressed**

Around 2.3 percent (60,000 hectares) of the total land area in Burundi is under coffee cultivation.<sup>6</sup> Though coffee is grown throughout the country, except in the Mugamba province, the most productive regions are Buyenzi, Mumirwa, and Kirimiro in the northeastern area. Figure 1 shows the locations of coffee washing stations around which coffee cultivation areas are distributed. The country's main forests, natural parks,<sup>7</sup> and wetlands in the north are surrounded by coffee cultivation and the likelihood of encroachment is potentially high in a country with high levels of deforestation.<sup>8</sup>

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<sup>6</sup> This figure has increased as a result of the coffee-sector reform.

<sup>7</sup> Burundi includes 14 protected areas: two national parks, six natural reserves, two monuments, and five protected landscapes, all owned by the state and managed by the National Institute for the Environment and Nature conservation. In addition, there are three community and private protected areas: a sacred forest and two arboreturns. The protected areas of Burundi cover approximately 157.923 hectares (5.6 percent of the total country land mass). Some of these have been declared but are not managed yet.

<sup>8</sup> In total, between 1990 and 2005, Burundi lost 47.4 percent of its forest cover, or around 137,000 hectares. Currently, only some 152,000 forested hectares remain in the country—none of which is considered intact forest. Uncontrolled cutting of trees for fuel wood, agricultural clearing, and livestock grazing are the main causes for the nearly complete deforestation of the country. The ethnic civil war and the subsequent collapse of government conservation efforts further reduced forest areas and resulted in increased poaching of wildlife. In addition, high population density on mountain slopes resulted in heavy soil loss and damage to agriculture. For more

Between 600,000 and 800,000 Burundi households (out of the total 1.2 million households) depend on coffee farming for their livelihood. These rural families are among the poorest in the country. Coffee production is an activity that is well represented across gender, age, ethnicity, and income groups. The same is true regarding employment opportunities at CWSs. Coffee washing, drying, grading, storage, and other processing steps are a significant source of employment in Burundi. Some of these tasks tend to be dominated by men, such as the washing and working at the drying tables, while women are employed in the sorting and grading operations.

Mixed farming (coffee trees intercropped with subsistence crops such as bananas, beans, and others) is practiced throughout the country on arable land, which is approximately 35 percent of the total land area. Each farm has between 50 and 250 coffee trees. Most of the coffee farmers reside in the country's higher elevations of 1,500 to 2,000 meters (5,000 to 6,600 feet).

**Figure 1. Burundi's Coffee Washing Stations**



information, see "Burundi Forest Information and Data," Monfsbay.com  
[rainforests.mongabay.com/deforestation/2000/Burundi.htm](http://rainforests.mongabay.com/deforestation/2000/Burundi.htm).

While variability and climate Change are affecting a vital sector of the economy, such as the coffee sector and the people living in the coffee areas, there are not adaptation activities in the baseline project. As describe in the NAPA (Project 2) with the foreseen climate change in the next decade, in much degraded areas, the very rigorous and long dryness will not be able to allow the regeneration of the vegetation. In Bugesera district, climate change will substantially reduce the xerophilus thickets, and the lawns will be degraded into stripped beaches with termite nests. In these degraded zones intensified erosion from flooding rains will increase pollution of lakes and rivers. Similarly as described in the NAPA (Project 6) the marshy and lake complex of Bugesera is threatened by dryness due to bad agriculture practices. These marshes and lakes keep their water only thanks to the existence of intact marshes stoppers between the river and the secondary valleys, that need to be better managed to take into account the fluctuation of water levels related to the cyclical fluctuations of precipitations.

Currently coffee farmers use marginal lands on steep slopes for their crops. This causes soil erosion in high rainfall areas and deposition on fertile lowlands in the absence of protective measures. Also, the elimination of shade cover for increased coffee production causes significant impacts on various soil quality parameters—including topsoil erosion—leading to land degradation, loss of biodiversity, expansion of agriculture frontier into protected areas.

In Burundi there are no buffer zones around the 14 Protected Areas,<sup>9</sup> because agricultural areas (including coffee areas) and human settlements are located at the edge of the PAs. Figure 9 indicates the location of the country's protected areas. The main PAs and forests are surrounded by coffee trees. Considering that arable lands are scarce,<sup>10</sup> the expansion of coffee plantations could extend to protected areas, especially in some localities.

### **Figure 9. Location of Protected Areas in Burundi**

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<sup>9</sup> Kibira National Park, Bururi Natural Forest Reserve, Mongue Natural Forest Reserve, Rusizi Natural Reserve, Ruvubu National Park, Gisagara Protected Landscape, Lake Mabanda/Nyanza Protected Landscape, Mukungu-Rukambasi Protected Landscape, Kinoso Protected Landscape, Rumonge Natural Forest Reserve, Vyanda Natural Forest Reserve, Kigwena Natural Forest Reserve, Northern Burundi Protected Aquatic Landscape, Natural Monuments of Karera Falls, and Nyakazu Break.

<sup>10</sup> Because of demographic pressure, the arable lands are parceled out increasingly, and the national average of land available to every household is just 0.38 ha.

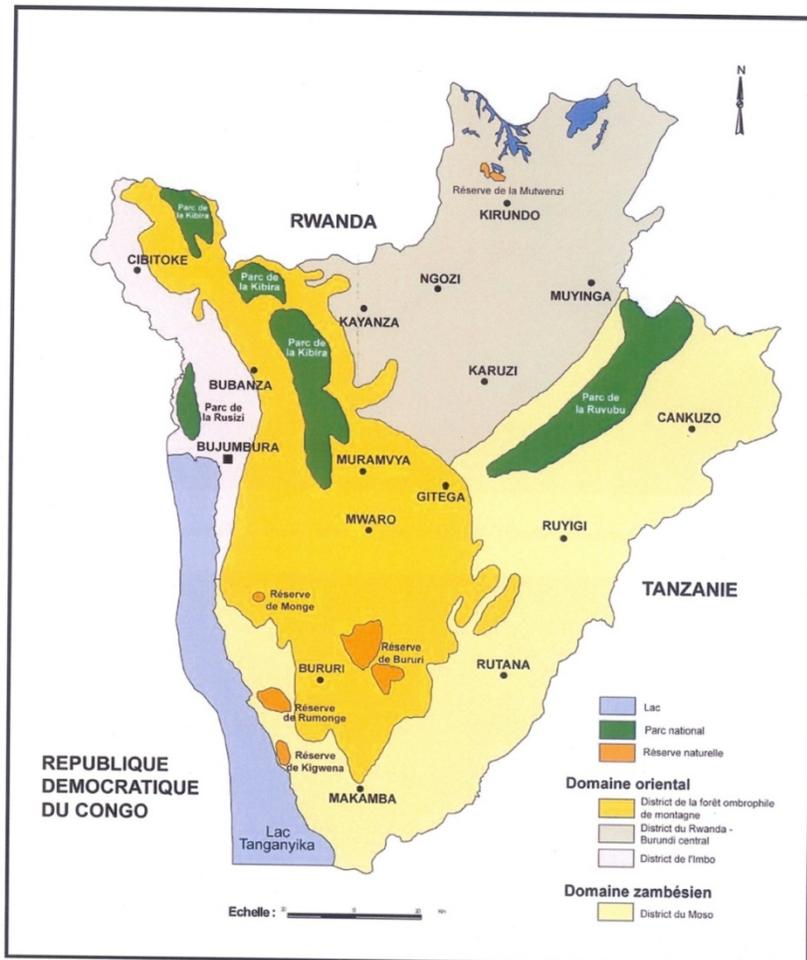


Figure 10 shows the land suitability for coffee plantations in the country. There is an overlap between PAs and the areas with excellent suitability. Thus, there is a possibility that some farmers could expand their coffee plantation onto their annual cropping area and use protected/forest areas for their annual cropping or for an expansion of coffee plantations.

**Figure 10. Map of Land Suitability for Coffee Plantations in Burundi**



contact. In addition, poor decomposition of manure causes foul odors that can expand up to a distance of around five kilometers downstream the areas of coffee processing..

### *Gaps*

Land degradation in such situations is the result of the following problems: lack of farmers' knowledge about sustainable land and water management (SLWM) technologies, lack of policy incentives for SLWM, lack of regulations related to preparation of land-use plans and sustainable coffee production, and lack of monitoring capacity of institutions to enforce regulations. With regard to the latter, the new institutions created with the reform (ARFIC and Intercafe) do not have the organizational setup or service to ensure the implementation and management of environmental and social aspects of coffee production. Other institutions in charge of environmental governance in the country, such as the Ministry of the Environment, also do not have the required monitoring and enforcement capacity.

PAs are vulnerable to encroachment, mainly because their physical boundaries are not clearly demarcated, and some of them, like Ruvubu, do not even have a clear legal status. This situation legally exposes the PA system to many pressures from local populations' encroachments and the potential exploration and exploitation of mining.

In addition, the existent PAs lack sufficient patrols to protect the areas from harmful activities. For years, people living close to the areas contributed to the protection of these areas by not allowing excessive use of them. However, this situation could rapidly change with the need for land for additional crop production.

Because of lack of specific regulations to control the environmental impacts of the CWS and wastewater disposal, water pollution in the watershed is a serious concern.

Because of the need to increase agriculture productivity the GoB is borrowing for the Agriculture project. However this does not include consideration of climate change that is expected to affect availability of water, variability of climate, soil and aquifer salination.

### Incremental costs reasoning and additional financing

The project is using as baseline two recently approved World bank IDA projects that only if considered together build the base for the GEF incremental project. Still under this baseline scenario, the capacity of Burundi to tackle land degradation, biodiversity, sustainable forest management, and climate change adaptation would be critically low, and the gap between the efforts to address the challenges and the scale of the problem would continue. The outputs listed in the Results Framework has been differentiated to show the IDA credits outcome/outputs and the GEF project outcome/outputs. The IDA projects do not have global benefits.

### Project Alternative ( \$ 20 M IDA credits + \$ 4.2 M GEF + \$ 1.5 M others)

The project alternative will expand sustainable Land and Water Management Activities in Coffee Landscapes in priorities watershed that are part of the Lake Victoria Basin. The project alternative will follow a landscape approach working in agriculture and forest land in the upper watershed, where coffee is produced and processed, and working on potential wetland protected areas in the lower watershed. The Project will work in the Bugesera District in the North East and in the Kagera River Basin. Both these areas are identified in the NAPA as priorities areas, and they are part of the larger Lake Victoria and Congo-Nile Watershed.

The project alternative will follow a value chain approach looking at the generation of Global Environmental Benefits and Adaptation Benefits along the three phases of coffee production, processing and marketing. These benefits would not be achieved in absence of GEF.

The design of the alternative is based on an analysis of the current issues, gaps and recommendations of the Coffee Sector Strategic Environmental Assessment.

The PDO of the project is: Expanding Sustainable Land and Water Management in coffee landscapes.

Key performance indicators for the Project are:

KPI 1. Increase in land area with SLWM practices in targeted areas, compared to baseline (hectares, reported by crop, range, forest, wetlands, protected areas)

KPI 2. Changes in vegetation cover in targeted areas, compared to baseline (hectares)

KPI 3. Targeted institutions with increased adaptive capacity to reduce risks and response to climate variability, compared to baseline (#)

KPI 4. Change in carbon accumulation rates in biomass and soil, compared to baseline (tC/ha)

### Recommendations and activities to be financed by GEF increment

To address these issues, several recommendations are being suggested that will constitute the components of the project to be financed by GEF Alternative.

#### **Component 1: Biodiversity friendly sustainable coffee production in priority watershed**

First, it is recommended that adequate training programs be developed for extension agents and farmers on SLWM technologies. The two main technologies to be promoted are the following. Cultivation of shade-grown coffee,<sup>12</sup> which provides habitat for a great number of other species, helps maintain genetic diversity, prevents soil erosion and land degradation, helps moderate climate change, and provides alternative sources of income within niche markets. Application of mulching techniques that increase coffee productivity is also recommended within the training programs. Under proper techniques, coffee cultivation can become an important strategy for combating soil loss, as coffee has been demonstrated to be one of the least erosive crops grown in the region.<sup>13</sup> Coffee production, if mulched and shade-grown, is one of the most important strategies Burundi can develop to fight against soil erosion .

Around 2.3 percent (60,000 ha) of the total area of Burundi is under coffee. Between 600,000 and 800,000 Burundi households (out of a total of 1.2 million households) depend on coffee farming for their livelihood. Each family has about 50-250 coffee trees. It is expected that the program for shade grown coffee and IPM will cover about 6,000 ha and 60,000 households. Another recommendation refers to the introduction of incentive mechanisms, such as the *payment for environmental services* (PES),<sup>14</sup> as a tool to compensate farmers for the downstream benefits they generate by keeping the slope well managed. This mechanism will contribute to the development of sustainable production measures by offering concrete benefits

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<sup>12</sup> Shade-grown coffee is grown under a canopy of diverse species of shade trees, often on small farms using traditional techniques.

<sup>13</sup> Using data from neighboring Rwanda (with almost identical agro-ecological conditions and cropping systems to Burundi's), that estimates soil loss (in tons per hectare) by crop type, it was demonstrated that coffee is the least erosive crop among the ones cultivated in the region. Considering 12 different crops, coffee had an average of soil loss of 0.3 tons/ha, followed by banana at 1.5 tons/ha.

<sup>14</sup> PES is a voluntary and mutually beneficial market-based agreement between consumers and suppliers of ecosystem services. The main principle within the PES is that the beneficiaries of the environmental services are willing to pay a price for the service and the providers of the services are being compensated with a payment that is greater than the cost of providing the service. The most common ecosystem services considered for the PES are climate change mitigation (through carbon sequestration and storage), watershed services, landscape beauty, and biodiversity conservation. Costa Rica and Nicaragua have a significant amount of experience in establishing PESs.

and financial returns for the farmers. The preparation of a PES program will need to include the following activities: visits to successful experiences overseas, preparation of policies about the PES, and analysis of potential implementation of PES in Burundi, among others.

Currently only 152,000 forested areas remain in the country, none of which is considered intact forest. Uncontrolled cutting of trees for fuelwood, agriculture clearing, and livestock grazing are the main causes for the nearly complete deforestation of the country. The PES program will be a pilot program, for Sustainable Forest Management. The PES/SFM program is expected to cover about 15,000 ha and about 100 communities. A conservative analysis based on extrapolated preliminary information for Burundi suggests that the project will save 27,510 tonnes of CO<sub>2</sub> over 10 years (assuming that 300 ha/yr would be destroyed in the baseline and the production if 2.5 tonnes C/ha/yr or 9.17 t CO<sub>2</sub>/ ha/yr). Over the ten year period, 27, 510 t of CO<sub>2</sub> would be preserved or rather not emitted into the atmosphere. Further analysis of the carbon calculations will be done during the preparation stage.

Land set aside from sustainable coffee production will need to be inserted in land-use plans: thus, the importance of issuing regulations that make mandatory the preparation of municipal land-use plans, with criteria, standards, and guidelines related to sustainable production (slope farming, presence of trees, farming close to river banks, and so forth). The current revision of the Land Code Decree-Law No. 1 / 008 of September 1, 1986 offers an opportunity to include land-use plans as a mandatory tool for the national territory. Under consideration is the addition of some core indicative triggers for Burundi's ERSG V, one of which is that the Council of Ministers issues a regulation that makes mandatory the preparation of municipal land-use plans with criteria, standards, and guidelines related to sustainable coffee production. The borders of the existing or potential protected areas should be prepared management plan and be demarcated to avoid expansion of the agriculture frontier into protected areas. In addition, the development of community-based conservation measures in the PAs could offer local communities an alternative activity that protects the PAs integrity while also contributing to improving their livelihoods.

Burundi has 14 protected areas : 2 national parks, 6 natural reserves, 2 monumnets, and 4 protected landscape, all owned by the State and managed by the National Institute for the Environment and Nature Conservation. In addition , there are two arboretums, a sacred forest, and three community and private protected areas. The protected areas of Burundi cover approximately 157,000 ha, 5.6 % of the total country land mass. Some of these have been declared but are yet not manage. The potential protected areas targeted by the project are the wetland and marshes in the lower watershed, close to Bugesera. The targeted area is estimated to be about 10,000 ha.

A mosaic of farms with multiple-use trees not only diversifies sources of income for the farmers and reduces environmental risks but also allows for the creation of biological corridors that contribute to the connectivity of protected areas.

Figure 2 shows several scenarios of coffee plantations with the spectrum of levels of shade that can be grown with coffee. This spectrum ranges from traditional cultivation, which is the most complex, most similar to pristine forest and the one with the least environmental impact on the original ecosystem, to the plantations in which coffee is grown on its own and in direct sunlight. This last scenario is the least complex and the one with the highest environmental impact.

A sustainable productive system for the farmers will be the one that promotes polyculture that mixes coffee plantations with various types of trees and other plants that produce additional sources of income and consumption. In addition, while the clearing of forests to establish sun coffee produces global greenhouse gas emissions causing climate change, shade-grown coffee helps moderate climate change and protects coffee plants during extreme weather. The trees

within a shade-grown coffee plantation help mitigate the effects of drought and extreme heat by keeping a moist, cool microclimate beneath the canopy. Also, the shade trees protect against harsh winds, excessive light, soil erosion and land degradation.

A polyculture has the potential to generate additional services than coffee production such as timber, fruit production, fuel wood, medicinal plants as well as shelter for animals such as birds and insects. In addition, it provides carbon sequestration that can lead to payments in the future. New techniques should be developed to promote agroforestry as a base model that includes shade trees. The Government should set up demonstration plots to model and disseminate information about the environmental and financial benefits of the integrated agroforestry practices. With the existing tradition of coffee monoculture imposed for many years in Burundi, it is even more necessary to start with pilot projects in zones that are more prone to polyculture and where farmers-innovators can experiment. In addition, visits to successful experiences throughout the world will facilitate a better understanding of the techniques and stimulate the required changes. A complete technical map should be prepared, documented, and made available in such a way that the producers easily assimilate it. These new agricultural technologies should also be widely disseminated to the existing farmer associations by any other deemed appropriate, and they should also reach farmers who are not members of these associations.

### **Component 2: Sustainable coffee processing and watershed management**

It is also recommended that a capacity-building program be established for relevant institutions, such as the Ministry of Environment, Ministry of Agriculture, ARFIC, InterCafé, and NGOs working in the coffee sector to monitor the implementation of sustainable technologies and enforcement of regulations.

It is essential to complete and consolidate the studies that analyzed the CWSs' social and environmental impacts so to have a comprehensive study on the effects of actual washing-station effluents, including their effect on the quality of receiving water bodies downstream and the effects on the existing agricultural production. The study should identify ways of treating CWS effluent by imposing a particular set of standards that will ultimately be legally binding on the CWSs.

Second, it is recommended that criteria, standards, and regulations be issued for the CWSs' water management and treatment. The regulations to be prepared (for this and all the environmental issues) should comply with the Environmental Code (Law No. 1/010 of June 30, 2000) that establishes the procedure for assessment of environmental impacts of all development projects. This Environmental Code has long existed but has never been fully implemented because the regulations, standards, and criteria for compliance have not been developed yet. In addition, one of the core indicative triggers suggested for the approval of the ERSG V for the country is the issuance of regulations and standards for CWSs by the Council of Ministers. These regulations and standards will need to ensure environmentally sound waste and water management.

### **Component 3: Biodiversity Friendly and Sustainable coffee marketing and certification along coffee value chain**

The establishment of a national certification system and program as well as a traceability system for the coffee is also an essential element of the project. Certification helps mitigate price volatility risk, while helping with environment and social issues. The low chemical input and high potential quality of Burundi's coffee offers the prospect of compliance with various certification programs, which define environmental and social standards. Burundi's coffee strategy should entail meeting such standards through improved environmental (organic, shade-grown, biodiversity friendly coffee) and social management (fair trade). All of them are based on standards designed to improve environmental management and yield higher prices and other socioeconomic returns.

Marketing and certification will motivate the farmer to make the necessary land use changes that will bring to the provision of global environmental benefits. If the farmer does not get a price premium for his sustainably managed coffee farm, he has no rational incentive to do it. The component will use a mix of certification schemes to offer a full menu to the farmer that will use the one that best suit him/her. The only new certification scheme that might be introduced is the Biodiversity Friendly Coffee for farmer that have a good forest, and coffee cultivated under the canopy of the trees. The marketing study will help Burundi to identify the best certification scheme for its Arabica coffee, that will lead to introducing Burundi coffee into coffee niche markets.

#### *Incremental Value Added*

The GEF increment would center on securing ecosystems services from the priorities watershed both in productive landscape, forested areas and protected areas by promoting the uptake of SLWM practices and approaches that have global environmental benefits in the upper part of the watershed. These includes soil and water conserving practices such as shelterbelts, multipurpose trees on productive lands, small scale irrigation, and water harvesting, water management in CWS. This will be complemented by land use planning, protected areas (wetlands) management, and biological corridors development in the lower part of the watershed. This watershed is part of the Lake Victoria Basin.

Particularly :

The definition of Sustainable Land and Water Management (SLWM) adopted in this proposal is based on Terrafrica's definition: the adoption of land use systems that, through appropriate management practices, enables land users to maximize the economic and social benefits from the land while maintaining or enhancing the ecological support functions of the land resources. SLWM includes management of soil, water, vegetation and animal resources. It involves a holistic approach that integrates social, economic, physical and biological assets. For the purposes of this proposal, this definition will encompass other approaches such as integrated natural resources management (INRM), integrated water resources management (IWRM), integrated ecosystem management (IEM), eco-agriculture and sustainable forest management (SFM), and many facets of sustainable agriculture, agriculture water management (AWM), biodiversity conservation and climate change adaptation, such as agroforestry.

#### *Global Benefits delivered*

The project is designed with multiple interlinked GEF Focal Areas. The resulting global environmental benefits include sustainable management of natural resources (land, water, vegetation) on priority watersheds; protection of biodiversity on critical wetlands; protection against erosion and desertification in priority watersheds; and the potential for carbon sequestration (estimates of expected carbon benefits will be provided by CEO endorsement. Most probably a Tier 1 approach will be used, using default factors such as from IPCC). These benefits will also contribute to increased resilience in the country

- 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 objective of the project is to generate, for farmers producing sustainable coffee, economic,

social and environmental benefits. The project will create an enabling environment for a long-term sustainable coffee sector. This will contribute to the development of a sustainable agriculture sector, the reduction of poverty levels, and the improvement of ecosystems services.

There is great potential for the project to generate benefits for both the farmers and the country's economy. Implementation of the project should go a long way toward stimulating coffee production and improving productivity.

The design of the project will follow a gender-sensitive approach. Since both men and women are engaged in agriculture and natural resource harvesting, an effort will be made to ensure that the specific needs of men and women are taken into account when designing the implementation of the activities in the selected project intervention areas. In addition, capacity building and training activities will make a special effort to include women, youth and other vulnerable groups, in order to ensure that they have equal access to project benefits.

By promoting SLWM and providing opportunities for livelihood improvement, it is envisaged that the project will contribute to alleviate living conditions of the inhabitants of this African region, which are among the poorest of the poor in the continent.

The project will increase opportunities for improving livelihoods and provide concrete benefits to smallholder farmers. The implementation of SLWM practices have the potential of offering a series of advantages to local communities such as greater yields, improved soil fertility, fodder availability, as well as shorter wood collection time for women (walking longer distances to find wood, forces women to reallocate time from other productive tasks and child-rearing responsibilities). Local communities will benefit from an increased production and access of forest products especially firewood, lumber and ligneous and non-ligneous products such as gum, resins, roots, leaves, barks, fruits and pharmacopeia. In addition, the implementation of SLWM practices will enable farmers and communities to adapt, and become more resilient to climate change by increasing food production, enhancing food security and restoring productive natural resources.

Some of the project's activities will also become new sources of employment and stable incomes for local communities including young people who are increasingly tempted by rural exodus and migration. In addition, the project will include in its components activities towards building the capacity of rural local and community institutions including women and youth associations. Engaging local communities in the Program's on ground activities will also contribute to build social capital in the region and to increase communities' confidence that sustainable management of their natural resources is a long-term strategy for increasing options for livelihood improvement. Social capital will also be strengthened through the involvement of local, grassroot and traditional organizations as well as NGOs with expertise in the areas of intervention.

The project will be encouraged to reflect the needs and enhance both women's and men's contributions during the design, implementation and M&E. Women will be the main beneficiaries of several of activities in the project since they will involve initiatives and products that particularly concern women.

- 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:

<b>Potential Risk</b>	<b>Proposed preliminary mitigation measure</b>
Local population gives higher priority to short-term livelihoods than to support for ecosystem and biodiversity conservation	The project will include incentives for local communities to incorporate ecological and conservation objectives into coffee resources management and farming practices.
Lack of sustained political commitment to reform the coffee sector	The project will be executed by the Ministry of Environment and InterCafé that both have major interests in the sector.
Deficient technical and institutional capacity for sustainable coffee management	The project will finance priority capacity-building activities at the national and local levels.
Sustainability of interventions	The project will work on marketing and certification for the sustainability of the coffee and will develop a partnership with Illy Coffee.
Climate Change	Project-financed activities will include assessments of climate change risks and propose interventions that enhance climate resilience.

**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:**

The key stakeholders of the project are the local communities whose livelihoods depend on coffee. Local and national government agencies and institutions, NGOs, universities and research institutions, and other donors will also play important roles on different aspects of project implementation. At the local level, the institutional implementation framework will be harmonized with the prevailing local authority administrative set-up.

As regulators and promoters of sustainable development, the ministries play a key role in the production of sustainable coffee.

The Ministry of Water, Environment, Land Management, and Urbanization has to promote standards for environmental protection, water regulation and protected areas. They must also ensure that increased coffee production and larger natural resources exploitation do not lead to environmental consequences.

The Ministry of Agriculture and Livestock is eager to promote the coffee sector which accounts for 60 % of all exports earnings. It is involved in setting up strategies protecting populations and agricultural assets while allowing greater and sustainable coffee productivity.

The Regulatory Authority of the coffee sector, ARFIC, is a public enterprise for the coffee sector aimed at ensuring the prerogatives of the state. The state maintains its presence in several roles, such as ensuring product quality control and redaction/enforcement of norms for coffee quality, providing information to all operators in the sector, arbitrating between coffee-sector actors in case of conflict, contributing to policy formulation, monitoring national and international production and market tendencies, and authorizing professional licenses.

InterCafé, an autonomous professional organization, financed from the sector's resources, composed of all professionals that form the coffee value chain. It is a forum for consultation and

decision making. Its objectives are to: participate in defining the medium- and long-term objectives of the Government's coffee-sector policies; serve as a premier chamber to amicably settle disputes between the operators in the coffee sector; represent the country's coffee sector to the GoB; determine the quality specifications of Burundian origin coffee and make proposals to ARFIC; take action to promote and market the coffee sector at national and international levels; compile statistics of the sector in collaboration with ARFIC and disseminate information regarding coffee to the members; participate in coordinating and financing the coffee-sector services in collaboration with the Ministry of Agriculture; determine the percentages or fees to be levied annually on all sales of raw coffee to finance the activities undertaken by the InterCafé and the royalties to ARFIC; and collect the established levies and monitor expenditures made on behalf of the sector.

Experienced NGOs will facilitate community mobilization and monitoring and evaluation of project activities in coordination with the Provincial Project Coordination Teams, which will coordinate sector activities within the project to ensure that they are implemented effectively and in accordance with approved work plans and budgets.

Local communities/organizations. Considering the focus of the project to on-the ground activity, community-based organizations will be key stakeholders. These organizations will vary depending on the particular country and region of intervention but will involve different civil society organizations starting from the grass root, traditional organizations, village committees, farmer organizations or cooperatives, women associations and to those NGOs with a broader level of intervention. Details will depend on each country's project, but overall these organizations will be in charge of the on-ground implementation activities. Involvement of NGOs or commercial organizations, chambers, committees or federations will be considered to support community engagement and/or specific technical activities if for example there are specific extension activities (such as introduction of new livelihood alternatives or land management tools) in which they have proven expertise in the area of intervention. Local communities will consist mainly of primary producers (men and women): farmers, herdsman, coalmen, gum, honey and resin harvesters, healers, hunters, wood carvers, etc.

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

The project will seek partnerships with other donor-supported programs in areas such as staff training, stakeholder education, information dissemination and public awareness programs. Specific projects where such collaboration would be pursued include:

The ADB financed ***Regional Project for Integrated Rural Management in Bugesera*** (Rwanda and Burundi), whose objective is the reduction of poverty in the Bugesera region through increased agricultural productivity and improvement of livelihoods. This project is supporting sustainable management of lake areas, including erosion control, control of water hyacinth, and protection of wetlands. This project focuses on the two big trans-boundary lakes of Rweru and Cyohoha and the Akanyaru marshlands, which are also shared by both countries.

The project will also benefit from **TerrAfrica**, a partnership on sustainable land and water management in Sub-Saharan Africa. This partnership aims to address land degradation by scaling up harmonized support for effective and efficient country-driven sustainable land management. These practices are expected to improve land productivity, climate resilience, and economic growth. TerrAfrica is led by the African Union's New Partnership for Africa's Development Planning and Coordinating Agency and consists of 21 African Governments and various regional economic and sub-regional organizations.

The **USAID DAI PAIR** project focuses on diversifying rural economic opportunities by improving agricultural and natural resource governance, strengthening domestic markets, and expanding regional and international trade. The project is supporting

Burundi's efforts to respond to changes in the world agricultural market that occurred in the 1990s, when Burundi was mired in crisis, and to revitalize the country's agricultural sector. This project will coordinate with the USAID/ DAI PAIR project to identify additional value chains that have growth potential; train producers and enterprises in collaboration, quality standards, and post-harvest handling procedures; strengthen agricultural associations; and support initiatives that resolve land disputes.

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

The World Bank has a comparative advantage in this project as a result of the recently established partnership with MEEATU through the IDA-financed Lake Victoria Environmental Management Project. The proposed project will scale-up some of the activities on watershed management already included in the IDA project, with emphasis on coffee landscapes, and on strengthening the Government's policy and regulatory framework.

In addition, the GEF/World Bank has extensive experience on land and watershed management, including rehabilitation and conservation of wetlands and riparian vegetation. In particular, the GEF-financed Integrated Management of Critical Ecosystems Project (IMCE) in Rwanda, which is closing on June 2011 and that also targeted wetland systems in the trans-boundary Bugesera area, will provide valuable lessons for the design and implementation of the proposed project given the existing similarities on the status of watershed management and wetland conservation in both countries.

The coffee reform of Burundi was supported by the World Bank's Third Economic Reform Support Grant (ERSG III) of \$25 million, which was the second in a programmatic series designed in 2009 to help the GoB transition the country's economy from postconflict and to design and implement policies to accelerate growth and promote human development. Because Burundian coffee has potential for successful sales in specialty markets, improving production, productivity, and prices was and still is considered an essential component of the growth and poverty reduction strategy and one of the main themes of the private sector development objectives of the ERSG program.

The World Bank has also financed a Rapid-Strategic Environment Assessment to analyze the environmental and socioeconomic aspects along the entire coffee value chain. An action plan was also prepared, giving recommendations and providing strategic directions for the sustainability of coffee production, processing, and commercialization.

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

The project is bringing approximately \$20 million in regional and national IDA allocations and \$0.2 million from TerrAfrica.

**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:**

Burundi's PRSP emphasizes healthy ecosystems, poverty reduction, and sustainable economic growth, and identifies degradation of natural resources as a key impediment to attainment of

development results and improved livelihoods. As such, promoting sustainable and broad-based economic growth is the first strategic objective of the Country Assistance Strategy (CAS) for Burundi. These objectives are: 1.1: Increased productivity of food and high-value export crops; 1.2: Improved business environment; 1.3 Improved infrastructural services with enhanced regional integration.

The project is also well aligned with the World Bank Strategy for Africa. Pillar Two (“Vulnerability and Resilience”) of the Strategy Highlights the need to support adaptation to the effects of climate change, building resilience against the impacts of droughts and other climate-related risks on the agriculture sector. In many cases, this will be achieved through sustainable management of fresh water resources through Sustainable Land and Water Management biodiversity, and Sustainable Forests Management some of which are an integral part of the activities under the parent project, LVEMP II APL 2, and the proposed GEF operation.

The World Bank has a country office in Burundi staffed with local experts in natural resources management and procurement that will be part of the team working on the project.

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

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OFP endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
MURENGERANTWARI, Epimaque	Chief of Cabinet and GEF Focal Point	<b>MINISTER OF WATER, ENVIRONMENT, LAND AND URBAN PLANNING</b>	

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

<b>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.</b>					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
Karin Shepardson GEF Agency Executive Coordinator		09/22/2011	Paola Agostini	(202) 473-7620	pagostini@worldbank.org

## Figure 2. Coffee Plantations with Different Shade Levels

The figure shows several coffee plantation scenarios using different levels of shade. These scenarios range from traditional cultivation, which is the most complex, most similar to pristine forest and the one with the least environmental impact on the original ecosystem, to plantations in which coffee is grown on its own and in direct sunlight. This last scenario is the least complex and the one with the highest environmental impact.

A sustainable, productive system for farmers is one that promotes polyculture: the mix of coffee plantations with various types of trees and other plants that produce additional sources of income and consumption. In addition, deforestation to cultivate sun coffee produces global greenhouse gas emissions, which contributes to climate change; shade-grown coffee helps moderate climate change and protects coffee plants during extreme weather. The trees within a shade-grown coffee plantation help mitigate the effects of drought and extreme heat by keeping a moist, cool microclimate beneath the canopy. Also, shade trees protect against harsh winds, excessive light, soil erosion, and land degradation.

Polyculture can generate additional products, such as timber, fruit, fuelwood, and medicinal plants as well as provide shelter for animals, birds, and insects. In addition, polyculture provides carbon sequestration that can lead to payoffs in the future.

