



PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZE PROJECT

TYPE OF TRUST FUND: LDCF

PART I: PROJECT INFORMATION

Project Title:	Resilience of Muanda's communities from coastal erosion, Democratic Republic of Congo		
Country (ies):	Democratic Republic of Congo	GEF Project ID:	5280
GEF Agency (ies):	UNDP	GEF Agency Project ID:	4965
Other Executing Partner(s):	Direction de Développement Durable / Ministère de l'Environnement Conservation de la Nature et Tourisme (MECN-T)	Submission Date:	March 19, 2013
		Re-Submission Date:	April 17, 2013
GEF Focal Area (s):	Climate Change	Project Duration (Months)	60
Name of parent programme (if applicable):	n/a	Agency Fee (\$):	508,725
<ul style="list-style-type: none"> • For SFM/REDD+ <input type="checkbox"/> • For SGP <input type="checkbox"/> 			

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK:

Focal Area Objectives	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
CCA-Objective 1: Reduce vulnerability to the adverse impacts of climate change, including variability, at local, national, regional and global level	LDCF	100,000	300,000
CCA- Objective 2: Increase adaptive capacity to respond to the impacts of climate change, including variability, at local, national, regional and global level	LDCF	1,600,000	4,000,000
CCA- Objective 3: Promote transfer and adoption of adaptation technology	LDCF	3,400,000	10,700,000
Subtotal		5,100,000	15,000,000
Project Management Cost (PMC)	LDCF	255,000	1,500,000
Total Project Cost		5,355,000	16,500,000

B. INDICATIVE PROJECT FRAMEWORK

Project Objective: Enhance climate resilience of Muanda communities (Bas Congo Province) through the establishment of relevant climate risk information for planning and budgeting, and the piloting of coastal protection measures, Democratic Republic of Congo

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
1. Integration of climate risks information into relevant planning policies	TA	Climate change risk management capacity strengthened (<i>for provincial, municipal officials and parliamentarians, private sector representatives, and coastal communities</i>) to integrate climate information in policy and investment planning	<p>1.1. Climate change induced coastal erosion risk profile mapped and economic costs and benefits of coastal defence /adaptation options assessed for the most sensitive areas to facilitate budgeting and future land use planning in Muanda Region;</p> <p>1.2. Guidelines and roadmap developed for the inclusion and the</p>	LDCF	800,000	3,000,000

Project Objective: Enhance climate resilience of Muanda communities (Bas Congo Province) through the establishment of relevant climate risk information for planning and budgeting, and the piloting of coastal protection measures, Democratic Republic of Congo

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
			<p>provision of climate smart finance into Muanda Urban development Plan and other relevant development framework (e.g. Bas Congo Provincial PRSP's 2016-2020);</p> <p>1.3. Efficient knowledge dissemination and communication strategy designed and rolled out to enhance understanding on various stakeholders (local leaders, coastal properties, private sector and communities) about climate change risks in the coastal zone, associated adaptation options costs/benefits, supporting policy planning policy process and sharing results and lessons generated from interventions made through this initiative</p>			
2. Investment in coastal defence and monitoring	INV	Urgent and immediate adaptation measures implemented in the most vulnerable coastal communities of Muanda to reduce the concurrent impacts of multiple climate risks, while building functional weather and climate monitoring capacity	<p>2.1. Climate risk monitoring system established to monitor/record real-time coastal erosion/sea level rise observations and to support the development of an Early Warning System (EWS) of coastal risk for local coastal communities;</p> <p>2.2. A menu of “soft” (re-vegetation, land planning, etc.) and “hard” adaptation measures (composite beach revetments, off shore breakwater, etc.) piloted in Muanda and Nsiamfumu to stabilize cliffs, secure the operations of docking</p>	LDCF	4,300,000	12,000,000

Project Objective: Enhance climate resilience of Muanda communities (Bas Congo Province) through the establishment of relevant climate risk information for planning and budgeting, and the piloting of coastal protection measures, Democratic Republic of Congo

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
			and unloading of fishing and minimise losses; 2.3. Small-scale community-based adaptation initiatives implemented among 10 Youth and Womens' Association in Muanda focused on developing alternative climate resilient livelihood opportunities to remove pressure on mangroves and coastal resources.			
Subtotal					5,100,000	15,000,000
Project Management Cost (PMC)				LDCF	255,000	1,500,000
Total Project Cost					5,355,000	16,500,000

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
National Government	Ministry of Environment (Sustainable Development Directory and Guinea Current National Commission)	Grant	2,000,000
National Government	Congolaise des Voie Maritimes, METTLESAT	Grant	7,000,000
GEF Agency	UNDP	Grant	2,500,000
Private Sector	PERINCO	Grant	5,000,000
Total Co-financing			16,500,000

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

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (\$) (a)	Agency Fee (\$) (b) ²	Total (\$) c=a+b
UNDP	LDCF	Climate Change Adaptation	Democratic Republic of Congo	5,355,000	508,725	5,863,725
Total Grant Resources				5,355,000	508,725	5,863,725

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

² Indicate fees related to this project.

E. PROJECT PREPARATION GRANT (PPG)¹

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

	<u>Amount</u> <u>Requested (\$)</u>	<u>Agency Fee</u> <u>for PPG (\$)²</u>
• (upto)\$150k for projects up to & including \$6 million	<u>100,000</u>	<u>9,500</u>

PART II: PROJECT JUSTIFICATION³

Project Overview

A.1. Project Description: briefly describe the project, including;

1) The global environmental problems, root causes and barriers that need to be addressed;

Coastal Area vulnerability to Climate Change

The DRC littoral zone is part of the Guinea Current Large Marine Ecosystem (GCLME). The total length of the coastline is forty kilometres. Mainly three cliffs interrupted by two coastal estuaries and a coastal strip compose the façade of the littoral zone. It comprises three main towns: Cities of Muanda, Banana and the fishing village of Nsiamfumu. Its population is predominantly rural, currently estimated at about 91,000 inhabitants. By 2030, the population is estimated to reach approximately 167,943 inhabitants.

According to the Second National communication Report (2010), DRC coastal zone is facing coastal erosion caused by a combination of the topography, the sandy nature of the soils, and the effect of oceanic dynamics (height of the swells, speed of the breaking of the waves, tides, storms, and so on). The problem of coastal erosion has intensified since 1980 with significant retreat of the coastal in the Banana-Muanda segment. The retreat of the coastline has been estimated at 2,300 meters in the case of the City of Muanda and 3,800 meters in the case of Vista. Historical data indicate that this sea level rise can increase by as much reach as two meters at these locations and can sometimes last for more than two months.

The different national reports on coastal vulnerability (NAPA, SNC and Programme on Coastal Erosion) clearly indicate that land, biodiversity socio-economic infrastructure and community livelihood will be seriously affected by coastal erosion. With the rate of shoreline retreat that is likely, it is expected that the road between Banana-Muanda will be completely lost by 2050 and in 2100. The proportion of lands lost to encroaching sea will double (200 m around Nsiamfumu and 100 m between Muanda city and Banana). DRC can expect to see its territory reduced from 50-100 m on its coastal area.

Table 1. Summary of the impact of coastal erosion issues and adaptation measures identified by the SNC

Vulnerability Indicators	Climate changes impacts	Adaptation measures
Increased average speed of the breaking waves and the height of the swells Higher sea levels	Erosion of the shorelines Low area flooding Saline intrusion Destruction of population clusters Destruction of tourist sites Abandonment of agricultural land Destruction of vegetation and loss of marine habitat; Disappearance of fishing beaches Destruction of basic socio- economic infrastructure	Regulation of mangrove development through the enhancement of mangrove area to enhance capacity of coast to absorb increased wave/storm energy Coastal development policy Delineation of building and residential areas Raising population awareness Diversification of activities and rationalisation of farmers fishermen

¹ On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

² PPG fee percentage follows the percentage of the GEF Project Grant amount requested.

³ Part II should not be longer than 5 pages.

Moreover, this proportion could even be even more if the current rate of deforestation of mangroves continues unabated. Other related impacts are:

- Saline intrusion affecting the water tables and the mangrove soil;
- Loss of the biodiversity of the mangrove marine park;
- Material and agricultural production losses;
- Sand deposits (deposits of up to 80 cm have been recorded on the Banana-Muanda segment), etc.

Underlying causes

Physical vulnerability of the coastline: DRC coastal area is exposed to climate hazards due to the low topography of the coastline between the town of Muanda and Banana, 10 km (about 27% of the coastline of the Democratic Republic of Congo). Severe exposure of soil and bedrock to hydrodynamic action occurs along 27 mm of the coastline (about 73% of the coastline);

Poverty and poor urban governance: Bas Congo is one of the most prosperous provinces of the country and, together with Kinshasa and Katanga, one of the three most developed provinces of the country. However, the Bas Congo has been affected by a series of economic and political crises since its independence. These crises have culminated in the late 1990s and early 2000s in several years of devastating conflict. This situation explains mainly the prevalence of poverty, which affects 69% of the inhabitants. Urban poverty in the province of Bas-Congo is manifested through the following elements: highly dense urban spaces, a serious gap between population growth and required economic growth to sustain a growing population, degradation and inadequate urban infrastructure and services; and difficult access to basic social services, poor urban governance.

Barriers to address

First, there are significant *information gaps* in the country, particularly with regards to climate risks in the coastal area such as: forecasting sea level rise, identification of areas at risk from climatic events, meteorological conditions and forecasting climate change over medium and long-term. The requisite infrastructure for the production of relevant information is not available. The region is equipped with only one weather station – at the Provincial airport – and even this is currently not functioning appropriately. The absence of reliable and relevant information makes it very difficult for Provincial and National agencies to assess suitable adaptation options, design coastal defense infrastructure and to develop and institutionalize appropriate guidelines and standards for planning purposes.

There is a *limited technical knowledge of decentralized technical services* to effectively support communities to identify, plan, design and implement adaptation options and coastal defense measures. Provincial staffs have limited knowledge and technical know-how about climate risk management in relation to the coastlines.

Coastal communities need also strong financial support to address urgent threats posed by climate change, and to meet the high adaptation costs to protect infrastructure, household property and businesses. Despite its rich endowments in natural resources and the dynamism and entrepreneurship of its population, the Democratic Republic of Congo (DRC) has been affected by a series of economic and political crises since its independence. The physical and social devastation caused by decades of mismanagement and conflict is extreme, and today, DRC is one of the poorest countries in the world. This situation explains mainly the prevalence of poverty, which affects 69% of the inhabitants. In addition, the Provincial PRSP paid little attention to coastal erosion impacts and no investment is planned to support communities' protection from climate impacts. The Provincial PRSP does not factor in the projected intensification of weather events associated with changing climate and increasing climate-induced problems

Finally, there is a general absence of awareness among coastal communities of the possible impacts of climate change, of the adaptation options available to manage anticipated risks and hazards including the importance of coastal defense ecosystem and infrastructures. This has led to unsustainable exploitation of mangroves (in order to meet urban expansion needs and fuel for household and smoking fish). Faced with unemployment, young people

are more and more engaged in marine sand exploitation. Unsustainable sand extraction practices can undermine the resilience of coastal communities

2) The baseline scenario and any associated baseline projects,

In the baseline scenario, the Government, private sector and development partners are financing a series of interventions (approximately US\$16.5 million, as outlined in Table C), and this forms the underlying development baseline of the proposed project. These development baseline initiatives are focused on providing basic hydrodynamic and weather forecasting (RVM/METTELSAT), addressing the immediate damages of road infrastructure as a result of recent storms and flood events (PERINCO) and building capacity of technical staffs to better operate the Provincial Budget and Investment Plans (UNDP).

UNDP-Strategic Planning for Development (expected co-financing USD\$2 Million): The project is contributing to restoring local planning functions through strengthening national capacity and supporting the development and/or updating of appropriate tools for sectoral planning. Key objectives are (i) the rehabilitation of the essential functions of planning, programming, budgeting and monitoring of economic policies; (ii) the definition of a vision of long-term development in line with the Millennium Development Goals (MDGs) and a realistic macroeconomic framework consistent with the objectives of sustainable development. It is expected that this baseline build the capacity of Bas-Congo Provincial technical staffs on public investment programming system while LDCF resources will training on how to use climate science-based guidelines on the development of climate resilient land planning (component 1).

PERINCO Corporate Social Responsibility programme (expected co-financing USD\$5 Million): The Oil Producer is the largest investor and taxpayer in the country. PERINCO's Corporate Social Responsibility programme focuses on five issues: infrastructures, access to safe water, access to electricity, health and employment. The company launched a micro-credit programme to foster individual initiatives in agriculture, craft industry, breeding and fishing. PERINCO road maintenance actions will serve as baseline investment to address immediate damage resulting from storm and floods events. Additional investments are expected from GEF to mitigate socio-economic losses (houses, hotels, etc.) caused by the erosion of the shoreline is spectacular, protect mangrove ecosystems and support communities alternative livelihoods (fisherman landsite, young and women reconversion activities, etc.) (Component 2).

Services from the National Marine Ways Management Agency – RVM (expected co-financing USD\$5 Million): RVM is the parastatal enterprise in charge of seaways. It is responsible for developing and maintaining the navigational route of the lower section of the Congo River from Matadi to the ocean. Maintaining of the maritime route involves: (i) the study of navigability and management of the maritime areas of the DRC, (ii) execution of development works for the maintenance of the coastline and other maritime zones (using dredgers), etc. Under this baseline, basic hydrodynamic data are available for the development bathymetric maps and the navigation catalogue with a view to carrying out the beaconing and dredging work. In addition, RVM will support the transportation of material for coastal defences. Resources from LDCF will provide support to map climate change induced coastal erosion risk profile for planning purpose (Component 1), establish climate risks monitoring system to conduct real-time coastal erosion and sea level rise observations (component 2) and realise of coastal defences infrastructures.

Services support from the National Meteorology Department - METTELSAT (expected co-financing USD\$2 Million): the Met department is managing 27 meteorological stations across the country to provide basic climate information related to the general weather forecasts made once per day as well as the climatic forecasts, the seasonal and decadal forecasts. METTELSAT will invest about 6 Mi USD (Strategic Plan 2013-2015) in the rehabilitation and modernization of met and hydrological stations (mainly airports) and acquisition of satellite data. LDCF resources will support the strengthening of climate monitoring system in the coastal area (Component 2).

3) The proposed alternative scenario, with a brief description of project expected outcomes and components

In the context of climate change, it is important for the Muanda region to develop new coastal management systems that can accommodate these uncertainties and help to minimize the impact of these events on community

livelihoods. Drawing from initial priorities in the Congo NAPA and coastal management strategies, LDCF resources will be used to support coastal management planning process (Outcome 1) and implement urgent and immediate adaptation measures in the most vulnerable coastal communities of Muanda (Outcome 2).

Component 1: Integration of climate risks information into relevant planning policies

Outcome 1.1. Climate change risk management capacity strengthened (for provincial, municipal officials and parliamentarians, private sector representatives, and coastal communities) to integrate climate information in policy and investment planning

Baseline: The Province developed its Poverty Reduction and Growth Strategy Paper (PRGSP) for the 2011-2015 period underpinned by five pillars: (i) good governance and peace consolidation; (ii) Macroeconomic stability and accelerate growth; (iii) Facilitate Access to Basic Social Services and reduce vulnerability; (iv) Combat HIV; and (v) support community dynamics. The Provincial PRSP paid little attention to coastal erosion impacts and no investment is planned to support communities' protection from climate impacts. The institutional capacity at the Provincial level is weak and needs to be strengthened in order to include climate change concerns into both Provincial and municipality policies and strategies (e.g. PRSP, Urban Plan, etc.).

The UNDP project “*Strategic Planning for Development*” has improved the planning system and the local development through the implementation of participatory development tools. Consultation processes are established to allow all segments of the population (including youth, women and Pygmies) to take part in the management of public affairs through consultation frameworks in place. Through this process, a budget management system is also implemented with the tools tailored to this scale for a sound and transparent management of resources mobilized. Financial public reform is underway at Provincial level and about 100 provincial technical staffs and parliamentarians were trained in Bas Congo and Kasai oriental (Mbuji-Mayi) to better understand the process of preparing the investment budget. This allowed the analysis and strengthening of the public investment programming system in the province of Bas-Congo and the establishment of local consultation mechanisms on public investment procedures. Provincial staffs have now key elements to better operate the Provincial Budget Investment. However, additional capacities are needed to help them identifying public financing instruments required to attract financial flows to address urgently threats posed by climate change, specifically high adaptation costs to protect socio-economic infrastructures.

LDCF resources will be used to apply climate risk management tools, information and to strengthen capacity of key stakeholders to help them understand, support and integrate climate information in policy and investment planning processes. Key outputs are:

Under **Output 1.1**, climate change induced coastal erosion risk profile will be mapped and economic costs and benefits of coastal defence /adaptation options assessed for the most sensitive areas to facilitate budgeting and future land use planning in Muanda Region. Current and future vulnerability will be assessed using participatory approaches. For this purpose, different climate scenarios (2050/ 2075/ 2100) through the downscaling of available climate data and coupling with matching economic information will be relied upon. Based on risks identified, technical options for coastal defence will be developed for the each sensitive areas and cost effectiveness assessed based on an analysis of prospective climate scenarios and current climate vulnerability and future risks, as well as socio-economic trends and constraints. Each option will be assessed financially and results provided to provincial/national authorities for further inclusion in the budgeting process. Training and guidelines tools will be provided to Provincial and local leaders & coastal managers to adjust regulations and policies governing the coastal zone based on the results of the climate risk and vulnerability profiles. The risks profile and adaptation options will be developed through a multi-stakeholders decision-making process involving local communities, users (e.g. oil companies, tourism providers, etc.), municipalities that together determine the conditions of the use / development of shoreline based on urban development and climate change scenarios.

Guidelines for climate resilient land planning and efficient roadmap will be developed for the inclusion and the provision of climate smart finance into Muanda urbanism Plan and relevant development framework (e.g.

Provincial PRSP's 2016-2020) (**Output 1.2**). The roadmap (akin to a sub-national level adaptation plan) will be a technical document guiding processes to achieve the transformational initiatives of Bas Congo, policy instruments to secure investment and financial flows from governmental and nongovernmental actors and agencies for the implementation of priority integrated climate and sustainable development activities. The roadmap will include short-/medium-/and long-term priorities, associated public policies and financing strategies, institutional and operational framework for implementation, and monitoring and evaluation processes. This step involves also bringing together potential public and private partners, supported by relevant technical and financial experts, to jointly assess and develop the roadmap. Training will be organised for relevant stakeholders involved into Policy process (Provincial Ministries of Land, Agriculture, Planning, staffs from Muanda Municipality, etc.) to use science-based guidelines supporting them on the development of climate resilient land planning. The Roadmap process will be an important element of UNDP support on NAP in DRC demonstrating how to identify, finance and implement appropriate medium- to long-term adaptation needs, and to balance sectoral and cross-sectoral priorities.

An efficient knowledge dissemination and communication strategy designed and rolled out to enhance various stakeholders (local leaders, coastal properties, private sector and communities) about climate change risks in the coastal zone, associated adaptation options costs/benefits, supporting policy planning policy process and sharing results and lessons generated from interventions made through this initiative (**Output 1.3**). Communication will have both a grassroots community-driven component, as well as a more traditional government communication element. NGOs or government can assist these efforts by supporting the development of appropriate resources for community groups to start this process. It is expected that

- The provincial government, municipalities, coastal property owners and private sector will increase their understanding of: climate change impacts on natural coastal processes and associated uncertainties, and the costs, benefits and consequences of various erosion control options and the potential impacts of climate change. The coastal property owners and Private sector have the willingness, confidence, information and support to shift to alternative methods to slow coastal erosion, including “softer” erosion management approaches. The Ministry of Environment will develop clear, consistent messages for the public about managing coastal erosion.
- Coastal communities will also access relevant and usable information about how to deal with coastal erosion, and begin to use this material to guide their decisions about erosion management. Information flows to coastal communities will be improved through the development of new tailored products to serve the information requirements of users in different sectors. These products will be developed through consultations with the intended users of the information and appropriate research organizations. Information and data from the monitoring infrastructure (weather and hydrological stations, radar, and satellite monitoring) will be combined to produce new user-relevant information.
- Local school children will learn about the importance of intact mangrove ecosystems and the protection of coastline;
- Finally, regularly exchanging information and experience will be established to ensure that lessons learnt from the project are shared to replicate demonstration activities and catalyse investments.

Component 2: Investment in coastal defence and monitoring

Outcome 2: Urgent and immediate adaptation measures implemented in the most vulnerable coastal communities of Muanda and Nsiamfumu to reduce the concurrent impacts of multiple climate risks, while building functional weather and climate monitoring capacity

Baseline: the Congolese Ways Maritimes (CVM) is undertaking the coastline monitoring through a bathymetric gauge monitored at daily basis to support safety of surface or sub-surface navigation. Two additional hydrographical survey motorboats are also equipped with an automatic GPS and a system for processing bathymetric data (depth measurement of the seabed). The CVM already established a database of more than 10 years on the bathymetric measures and associated maps. The parastatal enterprise is also equipped with a floating dock and 2 dredgers to ensure the navigability of the maritime area between Matadi and Banana. With this

material, the CVM contributed to the transportation of the material used for the protection of Banana from erosion.

In 2005, the Ministry of Environment established the National Commission in Charge of Coastal and Marine Environment. The commission already established Protocol with CVM on the control of pollution in the coastal area and working with NGO on the protection of the mangrove ecosystem. Dialogues are engaged between the Commission and Universities (e.g. *Postgraduate School on tropical forests and lands planning and integrated management (ERAIFT)*, *Faculties of Science and Law at the University of Kinshasa (UNIKIN)*, *Research Centre for Nuclear Studies Kinshasa (CREAN-K)*, etc.) to open channel of oceanographic studies. The Commission led the development of the Coastal Area Profile and the National Programme on Coastal Erosion. A network of national expertise is established (soil Engineers, urban development specialists, geo-technicians, environmentalist, etc.), to support the Commission works. But the commission lacks basic competencies, finances and data to monitor coastal erosion effectively.

PERINCO's Corporate Social Responsibility is supporting local community development targeting five major issues: infrastructures, access to safe water, access to electricity, health and employment (<http://www.perenco-drc.com/corporate-social-responsibility/helping-in-five-issues.html>). Baseline investment of PERINCO in Corporate Social Responsibility is estimated to be 5 Million USD (<http://www.perenco-drc.com/Pageflip/rdc/pages/pdf/rdc.pdf>). A regular upgrading and maintenance of national roads, specifically Muanda city thorough-fares and roads towards Boma Tshiende and Nsiamfumu (estimated to be 980,000 USD). The repairing of Muanda Airport road is underway (estimated to be 2,5 millions. In addition, the Oil Company is engaged in community actions related to access to water and schools. PERENCO is running a reforestation programme across the Muanda Territory. Over 10 years about 30 000 acacia trees have been planted, along with bamboos and other species, in order to minimize the adverse effects of soil erosion (<http://www.perenco-drc.com/corporate-social-responsibility/environment/forestry.html>).

Unfortunately, these interventions are very localized and few initiatives are undertaken to protect livelihood means (fishing areas), biodiversity areas (mangrove) or properties from coastal erosion. Urgent actions need to be undertaken to reduce the concurrent impacts of multiple climate risks, while building functional weather and climate monitoring capacity.

Following outputs will be implemented through GEF support:

Climate risk monitoring system established to monitor/record real-time coastal erosion/sea level rise observations and to support the development of an Early Warning System (EWS) of coastal risk for local coastal communities (**Output 2.1**). Under LDCF resources, the procurement and installation of meteorological marine stations and oceanography equipment (e.g. tidal gauges) will be realized with telemetry, archiving and data processing facilities (including installation and training). Where necessary satellite imagery will be used to assess the current extent of climate-related hazards and this information will be combined with sea level rise, ocean dynamic risk or other sectoral models to help the decision making process. A database combining climate, socio-economic and environmental information will be also established. Personnel responsible for the running of the equipment and receiving/archiving the data that it produces (including manually operated stations where necessary) will be trained, along with back up personnel and replacements. This includes ensuring that there is an incentive mechanism in place to sustain the system that is set up with the LDCF resources. Information collected from the monitoring system will serve to establish an online Early Warning System (EWS) of coastal risk for local communities. This system will be set-up and demonstrated for the reliable prediction of morphological impacts due to marine storm events and to support of civil protection risk mitigation strategies. The ability to predict the imminent arrival of coastal threats is a valuable tool for civil protection institutions in order to prepare themselves and, if need be, execute the appropriate hazard-reduction measures. Developments in climate modelling have resulted in coastal storm predictions of a level of sophistication that allows users to know quite precisely their timing, intensity and other important storm variables up to approximately three days in advance. A generic structure for an Early Warning System of coastal risk will be developed based on five essential modules:

- An observation module, where weather, wave, surge and initial beach profile measurements necessary for numerical modelling are collected
- A forecast module, consisting of the numerical model forecasts of weather, wave, surge and morphology
- A decision support module, containing tools (i.e. Storm Impact Indicators and hazard maps) to assist decision making
- A warning module, where warnings are issued according to various site-specific thresholds
- A visualisation module, displaying on-line information to assist end-users

A menu of “soft” (re-vegetation, land planning, etc.) and “hard” adaptation measures (composite beach revetments, off shore breakwater, etc.) will be piloted to stabilize cliffs in Muanda city and minimise losses (**Output 2.2**). Coastal risks assessment will be done under Output 1.1 to quantify the cause of the erosion problem, understand the key processes of coastal dynamics and determine options for addressing coastal erosion. Based on the observation of the geomorphological aspects of the coastline (presence of cliffs, mangrove areas), the damage caused by the coastal erosion and the historic of coastal protection in Banana, a list of measures are proposed by local stakeholders: (i) the stabilisation of degraded cliff around Muanda city through combined technology including the establishment of a vegetation cover along the cliffs to help make them more stable and resistant to erosion factors (e.g. wind, waves, high tides, etc.); (ii) the establishment of hard measures (composite beach revetments, off shore breakwater, etc.) to protect cliffs from wave attack and improve slope stability and it can also dissipate wave energy; (iii) and the development of land planning measure to prevent further development, and allow the phased retreat of existing infrastructure/properties. More attention will be also paid to restore Nsiamfumu and Muanda fishermen landing sites. This will secure the operations of docking and unloading of fishing through the construction / rehabilitation of wharves’ landing areas to protect them from the impacts of coastal erosion. But, the optimum options will be chosen after consultation with communities affected by the erosion and experts on the available options. Technical information such as design of the options, materials to be used, construction methods and maintenance and cost–benefit analysis will be provided to consider the balance of the cost and associated benefits. Management committees, participation of women ensured, will be also established and train to supervise protection activities and maintain coastal defences infrastructures after construction.

Finally, small scale community-based adaptation initiatives will be implemented among 10 young and women association in Muanda focused on developing alternative climate resilient livelihood opportunities to remove pressure on mangroves and coastal resources (**Output 2.3**). LDCF resources will support Youth associations engaged into gravel mining /coastal stone exploitation to develop alternative and income generating activities (e.g. agroforestry, coastal defense installation and maintenance, etc.). Women’s Associations will be also supported to promote the use of fuel-efficient stoves to reduce wood consumption and pressure on mangroves, to realize mangrove replantation activities for the restoration the ecosystem and to providing protection from flooding/SLR and increase ecosystem goods and services such as aquatic resources.

4) Adaptation benefits and innovativeness, sustainability and potential for scaling up

Socio-economic and environmental benefits	<ul style="list-style-type: none"> - The anticipated benefits of the proposed project are lives and livelihoods protected with the establishment of a reliable EWS and investment in coastal defence infrastructures. In addition, the project will support job creation in Muanda through adaptation works engaging women and youth (estimated to be 100); - The proposed adaptation investments (beach revetments) will reduce the severity of the erosion impact on communities; - Coastal infrastructure will increase the resilience of DRC mangrove ecosystem, contribute to better conservation of marine resources, and help preserve the carbon sequestration value of these ecosystems
Sustainability	<ul style="list-style-type: none"> - Training for relevant stakeholders involved into Policy process (Provincial Ministries of Land, Agriculture, Planning, staffs from Muanda Municipality, etc.) to use

	<p>science-based guidelines for planning and budgeting purpose will build a cadre of skills and experience at sub-national level that will be able to support on-going adaptation beyond the project period;</p> <ul style="list-style-type: none"> – Financial sustainability for climate-resilient infrastructure development will be promoted by identifying the optimum mix of policy and public financing instruments required to attract financial flows and guiding the formulation of projects and policy instruments to secure investment and financial flows; – Involving community based organisations on the identification of coastal protection options and their maintenance will ensure sustainable maintenance of infrastructure.
Replicability	Climate risks mapping and information provided to local deciders will lead to replicate the project approach in the other adaptation initiatives;
Innovativeness	The transformational initiatives of Bas Congo policies instruments to secure investment and financial flows from governmental and nongovernmental actors and agencies for the implementation of priority integrated climate and sustainable development activities

A.2. Stakeholders. Identify key stakeholders (including civil society organizations, indigenous people, gender groups, and others as relevant) and describe how they will be engaged in project preparation:

Stakeholder name - institution	Responsible Ministry	Institutional Mandate	Participation in the project
Sustainable Development Directorate (Direction du Développement Durable- DDD)	Ministry of Environment	National GEF Focal Point	Overall coordination of PPG activities;
Guinea Current Commission (CICG)	Ministry of Environment	Management of Marine and Coastal ecosystem	Contribution on designing adaptation activities, support participation processes
METTELSAT (National meteorological institution)	Ministry of Transport and VC	-Meteorological, agro meteorological observation -Climate and weather forecasting -Remote sensing	Contribution the design of EWS, identification of needs in term of climate information
National Marine Ways Management Agency	Ministry of Industry	Parastatal enterprise in charge of seaways	Contribute to the designing of, EWS policy and adaptation option;
Rural Radios	Ministry of Rural Development	Communication, awareness raising and knowledge dissemination	Climate information and adaptation practices dissemination
Provincial authorities (Inspections provincials)	All Ministries	Representation, integration and coordination of activities by all decentralized ministries	Support the development of appropriate policy to enable climate smart finance; supervision
Women and Youth Organizations and NGO	Civil society	Awareness, supervision	Contribution on designing adaptation activities, support participation processes
Private sector (e.g. PERINCO)	Private sector	Oil exploitation	Contribution on designing adaptation activities

A.3 Risk. Indicate risks, including climate change, potential social and environmental 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 (table format acceptable):

Risk	Level	Mitigation
Coastal erosion, flooding and sea level rise adversely impact many in the target communities. For this reason, many households may consider themselves “at risk” and feel entitled to project benefits, resulting both in conflict as well as a higher moral hazard.	M	Project will develop a participatory strategy to ensure that target communities are involved in developing and implementing adaption options and understand well challenges and processes.
Given the delicate natural balance of the coast, and geomorphology and biological processes, there is a risk that structural project interventions (e.g. breakwaters, drains) could alter sand deposits and cause coastal alteration. Specifically risk that the breakwater merely shifts the wave energy to an adjacent community causing enhanced storm damage there.	M	The project will involve dedicated professional (including UNESCO-IHE) to carry out a geomorphological modelling at the pilot sites, thus ensuring that the final intervention are correctly designed so as to minimize environmental and social risks.
Inadequate and unsustainable management and maintenance of coastal defences	M	Under the communication strategy, awareness tools will be developing on the importance of maintaining coastal defences infrastructures. It will be ensure that under output 1.2, sufficient means for the maintenance coastal defences are included in the financial schemes. Finally, Management committees, participation of women ensured, will be established and train to supervise protection activities and maintain coastal defences infrastructures after construction.
Political instability and conflict resurgence	M	UNDP will continue to work closely with the other UN and other bilateral partners to monitor the political situation and adjust its programme accordingly.

A.4. Coordination. Outline the coordination with other relevant GEF financed and other initiatives:

UNDP GEF- NAPA Project “Building the Capacity of the Agriculture Sector in DR Congo to Plan for and Respond to the Additional Threats Posed by Climate Change on Food Production and Security”: the Ministry of Environment, under the Direction of the Sustainable Development (DDD), is coordinating the on-going NAPA project on agriculture sector. The Congolese Government with that DDD will also coordinate the future GEF/LDF project based on on-going good management progress of the project and coordination mechanisms already established with different ministries and local stakeholders. DDD will ensure complementarity and synergy. Technical services involved in the on-going projects will be used to support communities in their adaptations actions.

B. Description of the consistency of the project with:

B.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSAs, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.:

In order to improve the population’s well being in line with the Millennium Development Goals (MDGs), in particular, a reduction in extreme hunger and poverty, DRC developed a Poverty Reduction and Growth Strategy Paper (PRGSP) for the 2011-2015 period underpinned by four pillars. The proposed LDCF project is linked with

the “*Pillar IV- Protect the environment and address climate change challenges*” and supporting national efforts to reduce coastal erosion impacts. Efforts to promote Environmental Sustainability (MDG 7) and gender equality (MDG 3) will also be fully integrated into this project process, with particular attention given to protect coastal biodiversity and consider women involvement in choice of climate resilient options, in policy negotiation and implementation of adaptation activities.

The project is in compliance with the National Action Plan for the sustainable management of marine and coastal environmental resources (PAN) as well as the National Programme to fight coastal erosion. The documents particular emphasis the need to establish an observatory of coastal erosion and to invest into construction works for the stability of the coastline. The Second National communication highlighted also the impacts of climate changes in Muanda shore and the adaptation measures identified such as regulation of mangrove development, coastal development policy, delineation of building and residential areas, raising awareness, etc. The project will focus on key adaptation interventions that were identified in the NAPA process, specifically the Option 8: Coastal Zone Protection. The proposed project will promote investment on climate resilient infrastructure for coastal communities protection and develop policy framework for climate smart investment.

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

This project is consistent with GEF’s Strategy on Adaptation to Climate Change for the Least Developed Countries Fund (LDCF). LDCF investments will support the promotion of relevant adaptation technologies (CCA-3.1 outcome) to protect communities from coastal erosion such as early warning systems, coastal infrastructures, etc. LDCF resources will be used also to provide relevant coastal risk information to local stakeholder to support them about how to deal with coastal erosion, and begin to use this material to guide their decisions about erosion management (CCA-2.1 outcome) and mainstream adaptation in provincial development plan to enable smart investment in the adaptation sector (CCA-1.1 outcome).

Country ownership: The DRC has been a signatory to the United Nations Framework Convention on Climate Change since December 1994. The NAPA was submitted to the Secretariat of the UNFCCC in September 2006. The DRC is listed as a Least Developed Country and as such, is eligible to receive LDCF support.

Compliance with programme and LDC Fund policies: This proposal seeks LDCF funding for a Full-Size Project (FSP) in Democratic Republic of Congo to reduce the vulnerability of Coastal communities in Muanda to climate change and coastal erosion. As per LDCF guidelines, the project proposal has been determined through deep consultation with the Government and stakeholders in Muanda, which led to a consensus for using the LDCF resources to implement the NAPA priorities for the coastal development zone. This choice is based on several considerations:

- (i) Firstly, the first NAPA priority options, which relate to agriculture sector, already received considerable attention and funding from LDCF (1 project under implement USD\$3 millions and a second project under development USD\$4.7 millions);
- (ii) Also, the NAPA identified the protection and the conservation of the coastal biodiversity as priority, with focus on the mangrove marine park (NAPA, pp. 52 Annex 4). The proposed LDCF project will contribute to the protection of the mangrove park by providing investment to young and women organization to develop alternative climate resilient livelihood opportunities to remove pressure on mangroves and coastal resources (Component two). In addition, relevant coastal risk monitoring system will be established (Component 2) for the prediction of impacts in mangrove ecosystem. This will support the increase of national meteo capacity (linked to NAPA priority 4). Investment on coastal protection will also enhance the resilience of coastal infrastructures (linked to NAPA priority 7);
- (iii) Finally, as revealed by both the SNC and NAPA, recent climate change manifestations have proven particularly intense and acute in the DRC coastal zone (with increasing average speed of the breaking waves and the height of the swells). These climate driven pressures on coastal zones pose serious development challenges to Muanda, which is the Congo Petroleum Platform and hosting harbors of international importance

(Banana Harbor). Recent observation reported a high-level shoreline recession with the ocean winning a score of meters on the Banana-Muanda segment. With the rate of shoreline retreat, it is expected that the road Banana-Muanda will be completely lost by 2050 and the proportions of lost lands will double around Nsiamfumu and between Muanda city and Banana). DRC will see its territory reduced from 50 to 100 m on its coastal area. Awar that this phenomenon would become more important, among other questions not well addressed in the NAPA 2006, the Government of DRC started a process of revision of the NAPA, putting coastal erosion issues among the five national priorities.

As such, the proposal is in compliance with the NAPA rules and procedures and represents the response of Government of Congo Democratic Republic to urgent and immediate adaptation needs.

Financing: The project is designed to reflect the additional adaptation costs of priority actions identified in the NAPA and builds on several other projects and programmes. The co-funding for this project is also within the stated guidelines with more than \$ 10 m in prospective funding. These amounts will be clarified during the project preparation phase. It should be noted that the likely co-financing is twice the amount required by the LDCF guidelines for the amount of LDCF resources being requested by the Government of Congo Democratic Republic for this project.

Institutional Synergy and Coordination: The Ministry of Environment (MEN) will be the executing agency and take overall responsibility for the project. Under its Directorate of Sustainable Development, MEN already has experience executing the GEF –UNDP LDCF project on the Agriculture Sector and is also the overall agency responsible for the National Adaptation Programme. The MEN is hosting the National Committee in charge of Marine and Coastal Environment. MEN will also be responsible for involving Local Government, Government agencies, Private Sector and Civil Society, according to their mandate, on the implementation of project components. Details of the institutional arrangements will be spelt out during the PPG phase and outlined in the project document.

Monitoring and Evaluation: The implementation of the project's activities will reflect GEF monitoring and evaluation standards and procedures as well as UNDP guidelines on monitoring and evaluation of projects on adaptation policy. Details for monitoring and evaluation will be articulated during the project development phase.

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

The proposed project is aligned with UNDP's comparative advantage, as articulated in the GEF Council Paper C.31.5 "Comparative Advantages of GEF Agencies", in the area of capacity building, providing technical and policy support as well as expertise in project design and implementation.

The LDCF project is relevant with UNDP Country Programme for D.R. Congo 2009-2012 focused on 3 pillars: (i) Democratic Governance; (ii) Poverty Reduction and MDG realisation; (iii) environment, crisis prevention, recovery and disaster risk management. More specifically, Pillar II is seeking, among other results, to create jobs and improve community living conditions. Pillar III, among other results, is seeking to put in place relevant measures on climate change adaptation. The proposed LDCF project will enhance resilience of coastal communities by supporting establishment of political framework for climate resilient investment and investment on coastal defence infrastructure and EWS. To do so, UNDP DRC set in place the necessary expertise to support project implementation. About 3 professionals are based in the Environment unit to work regularly with national and local partners on programmes/projects, including the sustainable management of natural resources, environmental protection, land degradation and Climate Change (adaptation and mitigation). Other staff based on Operation and Evaluation Units are also dedicated to project support.

The UNDP Country Office has a track record in supporting climate change and adaptation. UNDP has facilitated DRC in the preparation of the Country's National Adaptation Programme of Action (NAPA), and is overseeing the implementation of the first LDCF project on the agriculture sector. Technical and logistical supports have been provided to the Government for the preparation of Climate Change Negotiations in Durban (*financial support from Norway US\$2 M and 0.4 M from UNDP*). The Project support on climate change negotiations ensured the success of the Congolese presidency of the African Group during the Climate Change negotiation

process in 2010-2011. The UN-REDD Programme (*US\$3.1 million*), managed by UNDP, is preparing DRC to contribute to the reduction of emissions of greenhouse gases from Deforestation and Forest Degradation On the event of the COP18 meeting in Doha, Qatar, the DRC REDD+ National Fund was established with the signing of the agreement between the Government of DRC and the UNDP MPTF Office that will be the interim fund administrator (<http://mptf.undp.org/general/news/113>).


Moreover, Country Office operations are supported by regional advisory capacity based in the UNDP Regional Centre in Pretoria. UNDP has dedicated Regional Technical Advisers focusing on supporting adaptation programming and implementation in a range of technical areas relevant to this project including disaster management, infrastructure development, ecosystem-based adaptation, capacity development, and local governance reform. Our network of global Senior Technical Advisors provide additional technical oversight and leadership helping to ensure that programmes on the ground achieve maximum policy impact.

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)
Vincent Kasulu	Director, Direction de Développement Durable /	Ministère de l'Environnement Conservation de la Nature et Tourism (MECN-T)	DECEMBER 15, 2012

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	DATE (MM/dd/yyyy)	Project Contact Person	Telephone	Email Address
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